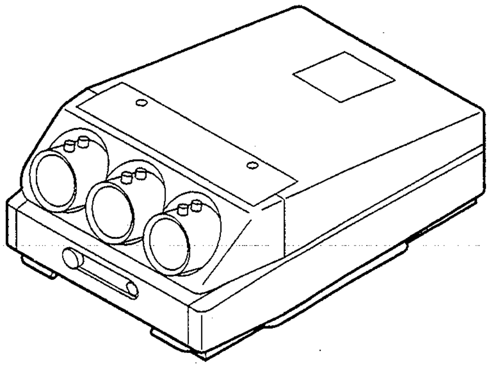
VPH-G70Q/G70QM/G70QMG
IFB-G70QMG
RM-PJ1000

SERVICE MANUAL

US Model
Canadian Model
VPH-G70Q
Chassis No. SCC-K81A-A

AEP Model
VPH-G70QM
Chassis No. SCC-K82A-A
VPH-G70QMG
Chassis No. SCC-G89C-A



SPECIFICATIONS

Optical characteristics

Projection system	3 picture tubes, 3 lenses, horizontal inline system
Picture tube	8-inch high luminance, electromagnetic focus tubes, with coolant sealed
Projection lens	HACC (High-resolution Aspherical and Color Corrected) multicoating lenses
Projected picture size	Factory-adjusted to 120 inches (diagonal measure) Range: 60 to 300 inches (diagonal measure) adjustable
Light output	ANSI lumen [1] (color temperature: 6500°K) 240 lm (fH: 110 kHz, fV: 50 Hz) 200 lm (fH: 15 kHz, fV: 60 Hz) Peak white: 1200 lm All white: 350 lm

Electrical characteristics

Color system	NTSC, PAL, SECAM, NTSC$_{4.43}$, and PAL-M switched automatically
Resolution	700 TV lines (video input) 1100 TV lines (HDTV input) 1700 × 1200 pixels (RGB input at fH:75 kHz, fV: 60 Hz)
RGB inputs	Horizontal frequency: 15 kHz to 110 kHz Vertical frequency: 38 Hz to 150 Hz
Test signal	Various test pattern generators incorporated

1) ANSI lumen is a measuring method of American National Standard IT 7.215.

— Continued on next page —

MULTISCAN PROJECTOR

SONY®

Input/Output

VIDEO 2)	VIDEO IN: BNC type (1) Composite video input, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated VIDEO OUT: BNC type (1) Loop-through output of VIDEO IN
S VIDEO 2)	Y IN: BNC type (1) Luminance signal, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated C IN: BNC type (1) Chrominance signal, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated S VIDEO IN: 4-pin mini-DIN (1) Y (luminance) signal: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated C (luminance) signal: 0.286 Vp-p ± 2 dB, 75 ohms terminated (NTSC) 0.3 Vp-p ± 2 dB, 75 ohms terminated (PAL) S VIDEO OUT: 4-pin mini-DIN (1) Loop-through output of S VIDEO IN
INPUT A	BNC type (5) Analog RGB/Component: R/R-Y: 0.7 Vp-p ± 2 dB, 75 ohms terminated, positive G: 0.7 Vp-p ± 2 dB, 75 ohms terminated, positive G with sync/Y: 1 Vp-p ± 2 dB, 75 ohms terminated, sync negative B/B-Y: 0.7 Vp-p ± 2 dB, 75 ohms terminated, positive SYNC/HD: Composite sync: 0.6–8 Vp-p high impedance, sync positive/negative Vertical sync width: wider than horizontal scanning interval (2H) VD:Vertical sync: 0.6–8 Vp-p high impedance, sync positive/negative Vertical sync width: Wider than horizontal scanning interval (2H) HDTV Y/PB/PR: Y: 1 Vp-p ± 2 dB, 75 ohms terminated, Tri-level sync: ±0.3 Vp-p, Bi-level sync: 0.3 Vp-p PB/PR: 0.35 Vp-p ± 2 dB, 75 ohms terminated HDTV GBR: G with sync: 1 Vp-p ± 2 dB, 75 ohms terminated, Tri-level sync: ±0.3 Vp-p, Bi-level sync: 0.3 Vp-p B/R: 0.7 Vp-p ± 2 dB, 75 ohms terminated
CONTROL S	IN/PLUG IN POWER stereo minijack type (1) 5 Vp-p, plug in power, DC 5 V maximum output 60 mA OUT stereo minijack type (1) loop-through output of CONTROL S IN
TRIGGER	Minijack type (1) POWER ON: DC 5 V, output impedance 4.7 kilohms POWER OFF: 0 V
ABL LINK	IN: minijack (1) OUT: minijack (1)
RS-422A	D-sub 9-pin type (1)

2) VPH-G70Q/G70QM and when the IFB-G70QMG is installed on the VPH-G70QMG

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

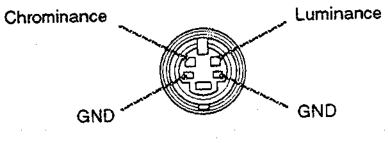
General

Dimensions	695 × 358 × 948 mm (27 3/8 × 14 3/32 × 37 5/16 inches) (w/h/d)
Mass	Approx. 83 kg (182 lb 16 oz)
Power requirements	VPH-G70Q: AC 120 V, 50/60 Hz VPH-G70QM/G70QMG: AC 220–240 V, 50/60 Hz
Power consumption	VPH-G70Q: Max. 750 W (Standby mode: 7 W) VPH-G70QM/G70QMG: Max. 720 W (Standby mode: 7 W)
Operating temperature	0°C to 40°C (32°F to 104°F)
Operating humidity	35% to 85% (no condensation)
Storage temperature	–20°C to 60°C (–4°F to 140°F)
Storage humidity	10% to 90%
Supplied Accessories	Remote control RM-PJ1000 (1) size AA (R6) batteries (3) Remote control cable (15 m (49.5 feet) long) (1) AC Power cord (1) Power plug adaptor (1) Lens cap (3) Lens cap for focus adjustment (1) Screws with hexagonal hole (6) Operating Instructions (1)

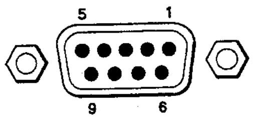
Pin assignment

S VIDEO connector (4-pin, mini-DIN)

(VPH-G70Q/G70QM/IFB-G70QMG only)



RS-422A connector (D-sub 9-pin, female)



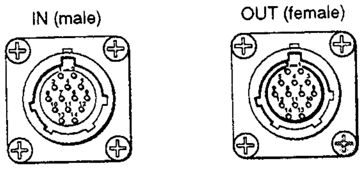
Pin No.	Signal	
1	GND	Ground
2	$\overline{\text{TX}}$	$\overline{\text{Receive}}$
3	RX	Transmit
4	GND	Ground
5	Not used	
6	GND	Ground
7	TX	Receive
8	$\overline{\text{RX}}$	$\overline{\text{Transmit}}$
9	GND	Ground

Optional accessories

Signal Interface Switcher	PC-1271/1271M
Signal Interface Unit	IFU-1271/1271M
Projector Suspension Support	PSS-70
Interface Board	IFB-12/20/21/30/1000
Signal Interface Cable	SIC-10/20A/20B/20C/21/22/23/24/24A/24B/25/26/26A/30/31/M1/5/15/25/50 CCQ-BRS2/5/10/25/50
Extension Board	EXB-DS10 (Internal IDTV board)
Remote Commander	RM-PJM800
Remote Control Unit	RM-PJ10
Mouse Receiver Unit	RM-PJ20
Signal Adaptor	ADP-10/20
HD D-sub 15-pin to 5 BNC cable	SMF-400
HD D-sub 15-pin to HD D-sub 15-pin cable	SMF-401
9-pin remote cable for RS-422A	RCC-5G/10G/30G
Screen	VPS-80FH (80" flat) VPS-100FH (100" flat) VPS-120FH (120" flat) VPS-80FM (80" flat, powered) VPS-100FM (100" flat, powered) VPS-120FM (120" flat, powered)

Some items may not be available in certain areas. For details, please consult your nearest Sony office.

REMOTE 1 connectors on IFB-40



Pin No.	Signal	Signal level
1	GND	Ground
2	HD/C. sync	1 Vp-p ± 3 dB
3	SIRCS	5 Vp-p ± 1 dB
4	N.C.	Non connection
5	GND (SIRCS)	Ground
6	B/C	B: 0.7 Vp-p ± 3 dB, 75-ohm C (NTSC): 0.286 Vp-p ± 3 dB, 75-ohm C (PAL): 0.3 Vp-p ± 3 dB, 75-ohm
7	GND (B.R)	Ground
8	GND (G)	Ground
9	G/Y	G: 0.7 Vp-p (sync-on-green: 1 Vp-p) ±3 dB, 75-ohm Y: 1 Vp-p ± 3 dB, 75-ohm
10	RGB/Video	5V / 0V
11	R/C. video	R: 0.7 Vp-p ± 3 dB, 75-ohm C. Video: 1 Vp-p ± 3 dB, 75-ohm
12	C. Video/YC	5V / 0V
13	Audio	500 mVrms, output impedance 1 kohm
14	V. sync	1 Vp-p ± 3 dB, 75-ohm

SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a coldwater pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

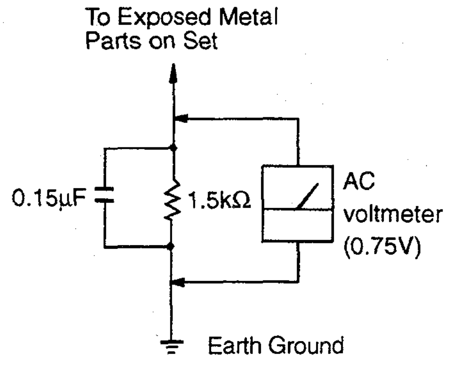


Fig. A. Using an AC voltmeter to check AC leakage.

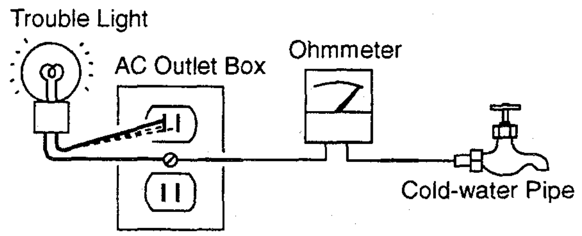


Fig. B. Checking for earth ground.

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Note :
IFB-G70QMG corresponds to the BC BOARD.

SECTION 1
GENERAL

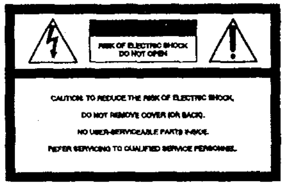
This section is extracted from instruction manual.

1-1. OPERATING INSTRUCTIONS

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.


RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the USA

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT

This wires in this mains lead are coloured in accordance with the following code:

Green-and-Yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Voor de klanten in Nederland

Bij dit produkt zijn batterijen geleverd.
Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

The socket-outlet should be installed near the equipment and be easily accessible.

Precautions

On safety

- Check that the operating voltage of your unit is identical with the voltage of your local power supply. If voltage adaptation is required, consult with qualified Sony personnel.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it further.
- Unplug the unit from the wall outlet or set the MAIN POWER switch to OFF if it is not to be used for several days.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- The wall outlet should be near the unit and easily accessible.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

On installation

- When the projector is mounted on the ceiling, the Sony PSS-70 Projector Suspension Support must be used for installation. Read the installation manual of the PSS-70 carefully, since the ceiling should be reinforced for safety.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes. Leave space of more than 30 cm (12 inches) between the wall and the projector. Be aware that room heat rises to the ceiling; check that the temperature near the installation location is not excessive.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity, mechanical vibration or shock.
- To avoid moisture condensation, do not install the unit in a location where the temperature may rise rapidly.
- Fans are installed inside the projector to prevent internal heat build-up. The fans produce a humming noise when the power is switched on, which is normal. Should the noise sound abnormal, please consult qualified Sony personnel.

On illumination

- To obtain the best picture, the front of the screen should not be exposed to direct lighting or sunlight.
- Ceiling-mounted spot lighting is recommended. Use a cover over fluorescent lamps to avoid lowering the contrast ratio.
- Cover any windows that face the screen with opaque draperies.
- It is desirable to install the projector in a room where floor and walls are not of light-reflecting material. If the floor and walls are of reflecting material, it is recommended that the carpet and wall paper be changed to a dark color.

On operation

To turn on the projector after the projector has been turned off due to a brief loss of power, press the POWER ON key on the remote control, or turn off the MAIN POWER switch so that the STANDBY indicator turns off and then turn on the MAIN POWER switch.

On cleaning

- To keep the cabinet looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents, such as thinner, benzene, or abrasive cleansers, since these will damage the cabinet.
- Avoid touching the lens. To remove dust on the lens, use a soft dry cloth. Do not use a damp cloth, detergent solution, or thinner.

CRT burns

When a static picture of a VCR or a computer is displayed for more than about an hour, a CRT burn may result. This means that an after-image impression of the static picture remains on the screen even after the picture has changed. If it is necessary to display the same static picture for more than an hour, we recommend that you set the CONTR (contrast) control to the lowest setting.

Also, when a picture of different size is displayed beyond a certain length of time, an after-image impression of the frame of the smaller picture may be burnt on the screen (such as displaying a 16:9 wide size picture on a 4:3 screen). To avoid this, we recommend that you use the same picture size when possible. However, if it is necessary to use a different picture size, set the CONTR (contrast) control and the BRT (brightness) control of the smaller picture to the lowest setting possible. This will minimize the risk of creating an after-image impression.

If the CRT burns, it must be replaced. In this case, refer to the warranty provided with this unit. Consult your Sony dealer or Qualified Service Personnel.

On repacking

Save the original shipping carton and packing material; they will come in handy if you ever have to ship your unit. For maximum protection, repack your unit as it was originally packed at the factory.

Features

Multiscan projector

This projector accepts and automatically detects horizontal scanning frequencies between 15 kHz and 110 kHz and vertical scanning frequencies between 38 Hz and 150 Hz.

In addition to high-resolution pictures from computers, you can also project pictures from teletext decoders, VCRs and video cameras.

High resolution and brightness

A newly developed 8-inch electromagnetic focus CRT, a hybrid Sony HACC (High-resolution Aspherical and Color Corrected) lens and a wide-range cathode/G1 dual-drive video output circuit are incorporated in the projector to provide a sharp and bright high-quality picture with the high resolution of 1700 × 1200 pixels and the high light output of 240 lumen.

High contrast

The adoption of the optical coupling technologies, double-focus lens system and an anti-reflection coating gives a fine-detail and sharp picture with improved contrast in corners and screen center.

Easy operation—remote control, on-screen display

Adjustments such as input selection, picture control and centering adjustment can be remotely controlled from both the front and rear of the projector with the supplied remote control. You can also use the control as a wired remote control by connecting it to the projector with the supplied remote control cable.

Compatible with various color systems

NTSC, PAL, SECAM, $\text{NTSC}_{4.43}$[1] or PAL-M color system can be selected automatically or manually.

Flexible setup

You can project a 60- to 300-inch picture (120-inch standard) with this projector. The projector can be set up on the floor or ceiling, for front or rear projection to suit the installation location, surrounding illumination, usage, etc.

Illuminated control panel/remote control keys

The key names on the remote control and the control panel of the projector can be illuminated for easy access in a dark place by pressing the LIGHT button.

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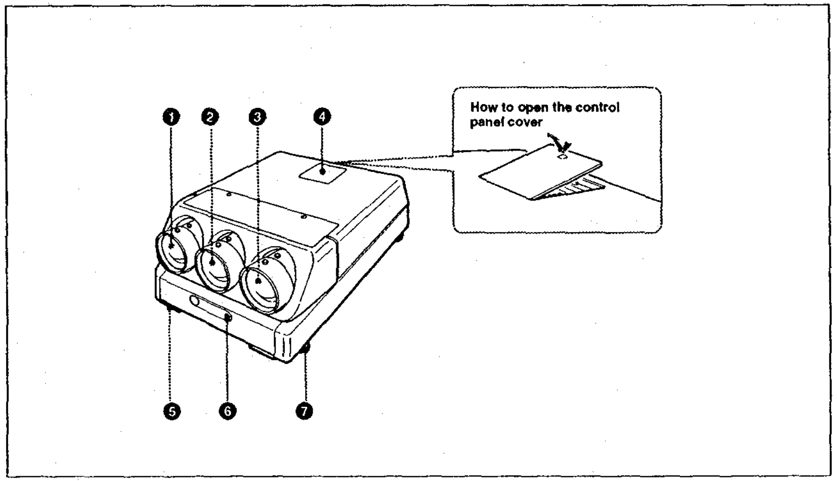
1) $\text{NTSC}_{4.43}$ is the color system used when playing back a video recorded on NTSC on a $\text{NTSC}_{4.43}$ system VCR.

Location and Function of Controls

Front



❶ Blue lens

❷ Green lens

❸ Red lens

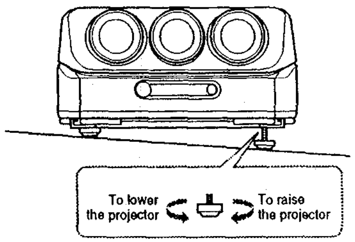
❹ Control panel cover
The control keys are inside the cover.
The locations and functions of the control keys are the same as those of the remote control.
For details, see "Remote Control/Control Panel" on page 11 (EN).

❺ Handles
Used for carrying the projector. The handles are located on the front, rear, left and right sides.

❻ Front remote control detector

❼ Adjusters
Used to keep the projector level if it is installed on an uneven surface (equipped with four adjusters).

How to use the adjusters

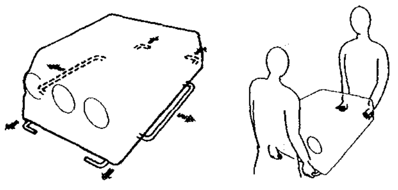


While lifting the projector, turn the adjusters to adjust the height so that the projector becomes level.

Note
Be careful not to let the projector down on your fingers.

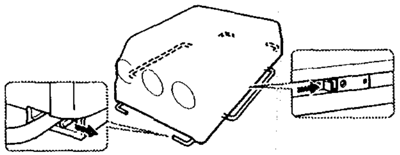
Using the handles

Pull out the front and rear handles or the side handles.

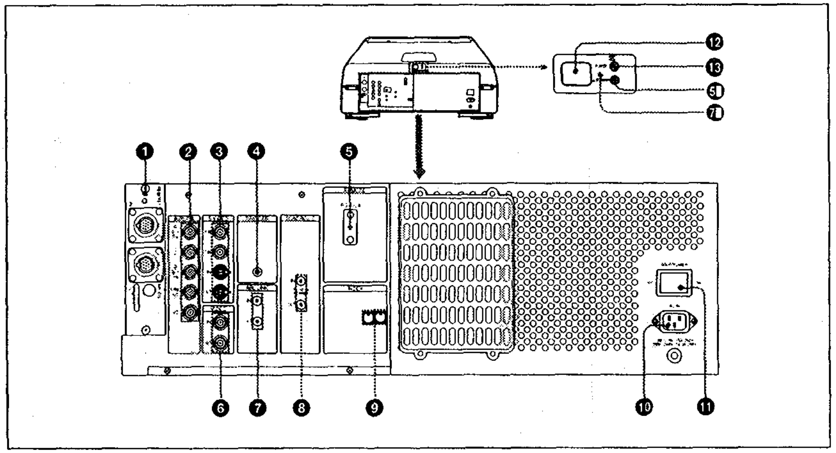


Putting away the handles

Push the handle release lever under each handle. The handle is automatically retracted.



Rear



① Signal interface board attachment part (INPUT B)
The IFB-40 Signal Interface Board is installed at the factory. Other optional signal interface boards can be attached to this section instead of the IFB-40.
Indicator (red): Lights up when the input of the IFB-40 is selected.
REMOTE 1 IN connector (14-pin multi): When connecting two projectors, connect to the REMOTE 1 OUT connector on the IFB-40 installed to another projector.
REMOTE 1 OUT connector (14-pin multi): Connect to the REMOTE 1 IN connector on the IFB-40.
MODE selector: Turn the control switch of the MODE selector to the appropriate position according to the length of the cable connected to the REMOTE 1 OUT connector.

Cable length	up to 2 m	up to 10 m	up to 25 m	up to 50 m
Type of cable	SIC-M-1 CCQ-2BRS	SIC-M-5 CCQ-5BRS CCQ-10BRS	SIC-M-15 CCQ-25BRS SIC-M-25	SIC-M-50 CCQ-50BRS
Position	1	2	3	4

② INPUT A connectors (BNC type)
R/R-Y/PR, G/Y, B/B-Y/PB, SYNC/HD, VD connectors: Connect to the outputs of a computer or a video camera. According to the connected equipment, the RGB (R, G, B), component (R-Y, G, B-Y) or HDTV (PR, Y, PB) signal is selected.

③ S VIDEO IN/OUT connectors (VPH-G70Q/G70QM only)
Y IN, C IN connectors (BNC type): Connects to the Y and C video outputs of the video equipment.
S VIDEO IN/OUT connectors (4-pin, mini-DIN type): Connects to the S video output or input of the video equipment.

Note
The S VIDEO IN connector is disconnected when a cable is connected to the Y/C IN connectors.

④ TRIGGER connector (minijack)
When the projector is turned on, 5 V is output and when it is turned off, 0 V is output. However, the connector is not used as the power source since the power is not output.

⑤ RS-422A REMOTE connector (D-sub 9-pin)
Used to expand the system connections using the RS-422A interface.
Before using the connector, loosen the two screws to remove the cap.

⑥ VIDEO IN/OUT connectors
VIDEO IN connector (BNC type): Connects to the composite video output of the video equipment.
VIDEO OUT connector (BNC type): Connects to the composite video input of a color monitor.

⑦ ABL (Automatic Brightness Limiter) LINK IN/OUT jacks (minijack)
When connecting multiple projectors, connects the ABL LINK OUT jack to the ABL LINK IN jack on another projector. You can synchronize the brightness limiting point among the projectors, allowing to make the whole screen brightness uniform.

⑧ CONTROL S jacks
IN/PLUG IN POWER (5 V) jack (stereo minijack): Connects to the CONTROL S OUT jack of other Sony equipment. Also connects to the CONTROL S OUT jack of the supplied remote control with the supplied remote control cable (stereo cable) to be used as a wired remote control. In this case, this jack supplys 5 V to the remote control as power source.
OUT jack (stereo minijack): Connects to the CONTROL S IN jack of other Sony equipment.

Note
When using this jack, the remote control detector on the projector does not function.

⑨ INDEX NO. switches
When multiple projectors are connected, set the index number of each projector.

Note
If you set the index number to "00", the projector does not operate.

⑩ AC IN socket
Connect the supplied AC power cord.

⑪ MAIN POWER switch

⑫ Error code window
An error code lights up when an operational error occurs.

⑬ POWER indicator
Lights in green when the power is turned on.

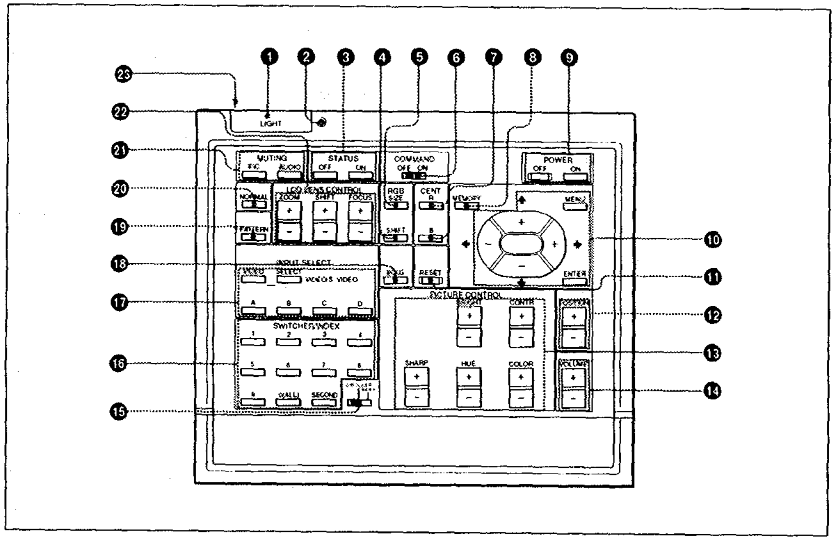
⑭STANDBY indicator
Lights in orange when the MAIN POWER switch is turned on. Once in the standby mode, you can turn the projector on and off with the remote control.

⑮Rear remote control detector

Remote Control/Control Panel

The locations and functions of the keys on the remote control are the same as those on the control panel of the projector. (Only the remote control is equipped with the transmission indicator and the COMMAND ON/OFF switch.)
The remote control may be used as a wired or wireless remote control.

Note
The VOLUME +/- ⓮, INPUT SELECT, C and D ⓱, AUDIO MUTING ㉑ and LCD LENS CONTROL ㉒ keys do not function with this projector.



❶ LIGHT button
Illuminates the key indicators.
The key indicators turn off if you press the LIGHT button again.
If you do not press any key for more than 30 seconds, the indicators also turn off automatically.
If the COMMAND ❻ switch on the remote control is set to OFF, only the COMMAND switch is illuminated.
When the remote control is connected to the CONTROL S IN/PLUG IN POWER jack of the projector via the remote control cable, the power is supplied to the remote control from the projector.

❷ Transmission indicator (only for the remote control)
Lights each time you press a key. If it does not light, replace the batteries with new ones.

❸ STATUS ON/OFF key
Press OFF to eliminate the on-screen display.
Press ON to restore the on-screen display.

Note
The menus and warning messages appear even if the OFF key is pressed.

❹ RGB SHIFT key
Enters the shift adjustment mode for the input signal.
Next adjust the position of the picture using the four arrow keys. The picture shifts in the direction of the arrow on the pressed key.
Press the MEMORY key ❽ to store the adjusted value and display the adjusted picture.

❺ RGB SIZE key
Enters the size adjustment mode for the input signal.
Next adjust the size of the picture using the four arrow keys.
← : to reduce horizontal size
→ : to expand horizontal size
↑ : to expand vertical size
↓ : to reduce vertical size
Press the MEMORY key ❽ to store the adjusted value and display the adjusted picture.

❻ COMMAND ON/OFF switch (only for the remote control)
No key on the remote control except the LIGHT button ❶ function when this switch is set to OFF. This saves the battery power.

❼ CENT R/B keys
Enter the centering adjustment mode of the red and blue.
R: Press to enter the red centering adjustment mode.
B: Press to enter the blue centering adjustment mode.
Perform the centering adjustment using the four arrow keys.

❽ MEMORY key
Stores various adjusted data into memory.

❾ POWER ON/OFF keys
Turn on and off the projector when the MAIN POWER switch on the projector is set to ON.

❿ Menu operation keys
Used for various adjustment functions and for menu operations.
MENU: Displays the main menu. Press it again to turn off the menu.
Arrow keys: Adjusts the value or selects the item in the menu.
ENTER: Stores the settings in the menu.

⓫ RESET key
Resets the adjusted levels to the factory preset or initial setting levels.

⓬ POSITION +/– keys
Select the position to be adjusted on the screen in blanking adjustment mode.
Also, set V SHIFT to WIDE or NARROW in the RGB input signal's SHIFT adjustment mode.

⓭ PICTURE CONTROL keys
Adjust the picture conditions: CONTR (contrast), BRIGHT (brightness), COLOR, HUE and SHARP (sharpness).

⓮ VOLUME +/– keys
These keys do not function with this projector.

⓯ SWITCHER/INDEX select switch
Selects the function of the SWITCHER/INDEX keys.
Set to SWITCHER to select the input from the PC-1271/1271M Signal Interface Switcher.
Set to INDEX to assign the index number of each projector when multiple projectors are used.

⓰ SWITCHER/INDEX keys
When the SWITCHER/INDEX select switch is set to SWITCHER
When the PC-1271/1271M switcher (not supplied) is connected to the projector, press a number key (1 – 8) to select the input from the switcher. The number key 9 does not function.
To select the input from the second switcher (when the SINGLE/SECOND/OTHER switch on the switcher is set to SECOND), press a number key between 1 and 8 within two seconds after pressing the SECOND key.
When the SWITCHER/INDEX select switch is set to INDEX
When multiple projectors are connected, select the index number, which is set with the INDEX NO. switch on the rear panel, of the projector to be adjusted. Press a number key (1 – 9) to designate the index number, then press the ENTER key. When adjusting all the projectors simultaneously, press the 0 (ALL) key, then the ENTER key.

⑰ **INPUT SELECT keys**
Select the input signal.
VIDEO: The video or S video signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors
SELECT VIDEO/S VIDEO: Selects the signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors by pressing this key after pressing the VIDEO key.
A: The RGB, component or HDTV signal input from the INPUT A connectors of the projector
B: The signal input from the INPUT B section when the optional interface board other than the IFB-40 is installed
C, D: These keys do not function with this projector.

Note

To switch the input signal from the INPUT A or INPUT B to the S VIDEO IN (or Y/C IN) connectors, first press the VIDEO key, then press the SELECT VIDEO/S VIDEO key.

⑱ **BLKG (blanking) key**
Enters the blanking adjustment mode.
You can adjust the blanking with the four arrow keys.

⑲ **PATTERN key**
Displays the internal test patterns of the projector.
Each press of the key displays CROSS HAIR, HATCH (9 x 9), ME and COLOR BAR patterns, sequentially.

⑳ **NORMAL key**
Erases the test pattern or cancels the various adjustment modes.

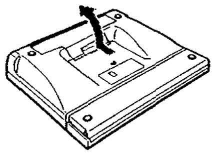
㉑ **MUTING keys**
PIC (picture): Cuts off the picture. To restore the picture, press the key again.
AUDIO: This key does not funcion with this projector.

㉒ **LCD LENS CONTROL keys**
These keys do not function with this projector.

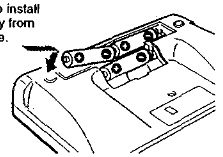
㉓ **CONTROL S OUT jack (only for the remote control)**
Connects to the CONTROL S IN/PLUG IN POWER jack on the projector for wired remote control application.

Battery installation

1 Push to open the lid.

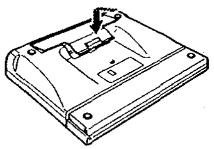


2 Install the three R6 (size AA) batteries (supplied) with the correct polarity.



Be sure to install the battery from the ⊖ side.

3 Replace the lid.



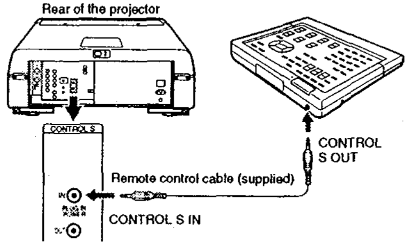
Notes on batteries

- Be careful that the battery orientation is correct when inserting batteries.
- Do not mix old battery with new one, or different types of batteries.
- If you do not intend to use the remote control for a long time, remove the batteries to avoid damage from battery leakage. If a battery has leaked, remove the batteries, wipe the battery compartment dry and replace the batteries with new ones.

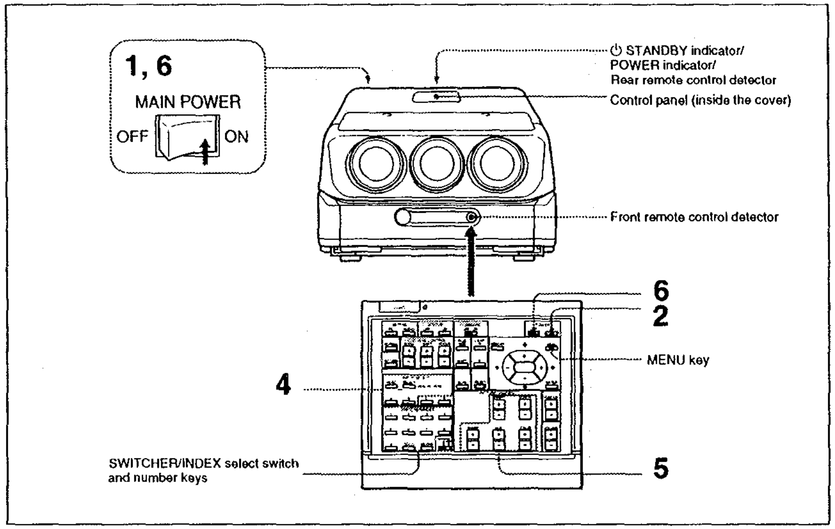
Notes on wireless remote control operation

- Be sure that there is nothing to obstruct the infrared beam between the remote control and the projector.
- The operation range is limited. The shorter the distance between the remote control and the projector, the wider the angle within which the remote control can control the projector.
- The remote control detectors on the projector do not operate when the remote control is being used as a wired remote control. If you wish to use the remote control as a wireless remote control, be sure to remove the connecting cable from both the remote control and the projector.

Connecting the remote control to the projector



Projecting


1, 6
MAIN POWER
OFF
ON
⏻ STANDBY indicator/
POWER indicator/
Rear remote control detector
Control panel (inside the cover)
Front remote control detector
6
2
MENU key
4
SWITCHER/INDEX select switch and number keys
5

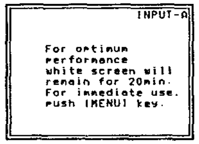
1 Press the MAIN POWER switch on the rear of the projector.

The ⏻ STANDBY indicator lights in orange and the projector goes into the standby mode.

2 Press the POWER ON key on the remote control or the control panel.

The POWER indicator lights in green.

A white screen with the message shown below (warming up screen) appears on the screen. Make sure to allow the projector to warm up for 20 minutes after turning it on.
The message disappears temporarily in about 35 seconds, and will appear subsequently for 5 seconds every 30 seconds.



```
                    INPUT-A

     For optimum
     performance
     white screen will
     remain for 20min.
     For immediate use.
     push [MENU] key.
```

Press the MENU key to cancel the warming up screen and see the picture immediately after the projector is turned on if, for example, the adjustment has been finished and warming up is not needed.

(continued)

3 Turn on the power of the connected equipment.

4 Select the input signal to be projected by pressing the INPUT SELECT key.

VIDEO and SELECT keys: To project the signal input from the equipment connected to the VIDEO IN or S VIDEO IN (or Y/C IN) connectors. Select VIDEO or S VIDEO by pressing the VIDEO key, then the SELECT key.

A: To project the RGB, component or the HDTV signal input from the equipment connected to the INPUT A connectors.

B: To project the signal input from the equipment connected to the optional interface board other than the IFB-40 installed to the INPUT B section.

When the PC-1271/1271M Signal Interface Switcher is connected: Set the SWITCHER/INDEX select switch to SWITCHER and then select the input with the number keys 1 to 8. If two switchers are connected, press the SECOND key and then the number key to select the input from the second switcher.

Note

When you select the input signal connected to the INPUT A or INPUT B section, be sure to select the correct signal in the SET SETTING menu. If an incorrect signal is selected, picture may be distorted.
For details, see "The SET SETTING Menu" on page 29 (EN).

5 Adjust the picture.
For details, see "Adjusting the picture" on page 17 (EN).

6 To turn the power off, press the POWER OFF key on the remote control or on the control panel of the projector, then set the MAIN POWER switch on the projector to OFF.

To	Press
Turn off the on-screen display	the STATUS OFF key. The menus and warning messages appear even if the OFF key is pressed. To restore the on-screen display, press the STATUS ON key.
Cut off the picture	the MUTING PIC key. To restore the picture, press the MUTING PIC key.

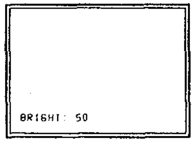
Adjusting the Picture

Adjust the picture for your preference. The adjustment data can be saved in the memory.

1 Adjust with the PICTURE CONTROL +/– keys.

BRIGHT	Brightness
CONTR	Picture contrast
COLOR	Color intensity
HUE	Hue
SHARP	Sharpness

The adjustment levels are digitally displayed with a range of MIN, 1, 2, ... 99, MAX.



2 Press the MEMORY key to save the data.

Dynamic picture mode (only for the video or component input pictures)
You can get high quality picture contrast by setting D.PICTURE to ON in the PIC CTRL menu.
For details, see "PIC CTRL (Picture Control) menu" on page 24 (EN).

Restoring the initial data

1 Press the PICTURE CONTROL key of the item which you want to reset to the initial data.

2 Press the RESET key.
The selected item is reset to the initial data.

Notes
- The COLOR, SHARP and HUE keys do not function on the pictures input from the RGB IN connectors.
- The HUE and COLOR keys do not function if the input signal is black and white.
- The HUE key does not function with the PAL or SECAM color input source.

Adjusting the Size And Shift of the Picture

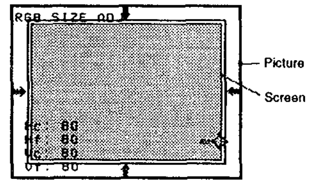
The size and shift of the input picture can be adjusted to fit the screen.

SIZE adjustment

Adjust the picture size if it does not fit the screen.

1 Press the RGB SIZE key.
(Use the RGB SIZE key even for the signal other than RGB.)

2 Adjust the picture size with the arrow keys.
↑ : The vertical size is expanded.
↓ : The vertical size is reduced.
→ : The horizontal size is expanded.
← : The horizontal size is reduced.



3 Press the MEMORY key to save the adjustment data.

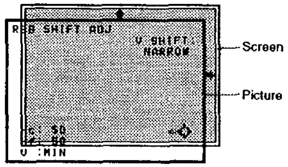
Resetting to the initial preset size
The picture size of the video signal can be reset to the initial preset size by pressing the RESET key in RGB SIZE adjustment mode. (The picture size of signals other than the video signal cannot be reset.)

SHIFT adjustment

If the picture needs to be shifted to fit the screen, adjust the position of the picture.

1 Press the RGB SHIFT key.
(Use the RGB SHIFT key even for the signal other than RGB.)

2 Adjust the shift with the arrow keys.
↑ : The picture is shifted upward.
↓ : The picture is shifted downward.
→ : The picture is shifted rightward.
← : The picture is shifted leftward.



Note
When the RGB signal is input, the adjustable range of the vertical shift (V SHIFT) can be set to WIDE or NARROW by pressing the POSITION +/– keys.
When the video signal is input, V SHIFT is automatically fixed to NARROW and the adjustable range of the vertical shift will become narrower than that of the RGB signal.

3 Press the MEMORY key to save the adjustment data.

Resetting to the initial preset position

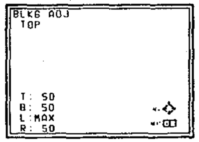
The position of the picture of the video signal can be reset to the initial preset position by pressing the RESET key in RGB SHIFT adjustment mode. (The position of the picture of signals other than the video signal cannot be reset.)

Blanking adjustment

If the displayed picture is larger than the screen, cut off the excess parts.

1 Press the BLKG key.

2 Press the POSITION +/– keys to select the part to be adjusted.
- When you press the + key, the position cycles through the following order:
  TOP → BOTTOM → LEFT → RIGHT → TOP...
- When you press the – key, the position cycles in reverse order.



BLKG ADJ
TOP

T: 50
B: 50
L: MAX
R: 50

3 Adjust with the arrow keys.
- Press the ↑ and ↓ keys to adjust the TOP and BOTTOM positions.
- Press the ← and → keys to adjust the LEFT and RIGHT positions.

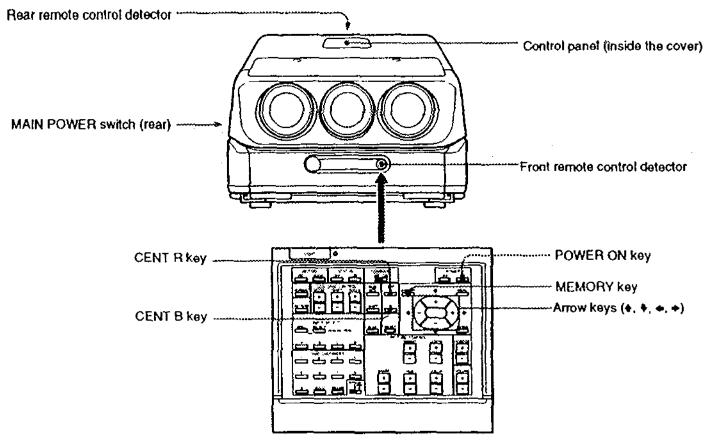
4 Press the MEMORY key to save the adjustment data.

Note

When you connect multiple video input sources to the projector, such as when using the switcher, adjust the picture size, picture shift and blanking for each input connector.

Centering Adjustment

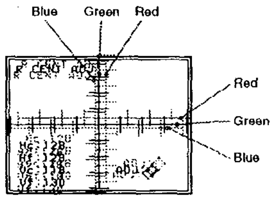
The three colors, red, green and blue must converge for correct projection. If they do not converge, centering adjustment is necessary.


Rear remote control detector
Control panel (inside the cover)
MAIN POWER switch (rear)
Front remote control detector
CENT R key
CENT B key
POWER ON key
MEMORY key
Arrow keys (↑, ↓, ←, →)

1 Turn the projector on by switching on the MAIN POWER switch and pressing the POWER ON key on the remote control.

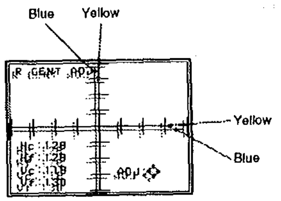
2 Press the CENT R key.

The built-in CROSS HAIR test pattern appears and the red line will be adjustable.


Blue
Green
Red
Red
Green
Blue

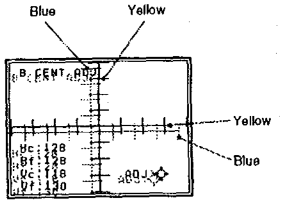
3 Press the arrow keys to move the red line until the red and green lines converge and become yellow.

The red line moves according to the direction of the arrow.


Blue
Yellow
R CENT ADJ
Yellow
Blue
Hc:128
Hf:128
Vc:118
Vf:130
ADJ:

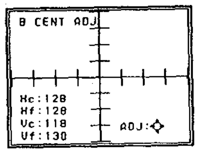
4 Press the CENT B key.

The blue line will be adjustable.


Blue
Yellow
B CENT ADJ
Yellow
Blue
Hc:128
Hf:128
Vc:118
Vf:130
ADJ:

5 Press the arrow keys to move the blue line until the blue and yellow lines converge.

The blue line moves according to the direction of the arrow.
When all three color lines converge, the test pattern will become white.


B CENT ADJ
Hc:128
Hf:128
Vc:118
Vf:130
ADJ:

6 Press the MEMORY key.

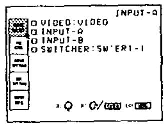
The normal display is restored.

Using the Menu

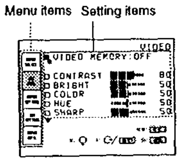
The projector is equipped with an on-screen menu for making various adjustments and settings.
The language used in the menu can be changed to French, German, Italian, Spanish, Japanese or Chinese.
For details, see "LANGUAGE" on page 30 (EN).

Basic Menu Operation

1 Press the MENU key.
The menu display appears.
The menu presently selected is highlighted in blue.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

2 Use the ⬇ or ⬆ keys to select a menu, then press the ➡ key or the ENTER key.
The selected menu appears.
The setting items that are indicated in white cannnot be selected.

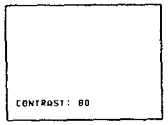

Menu items
Setting items
VIDEO
VIDEO MEMORY:OFF
CONTRAST 80
BRIGHT 50
COLOR 50
HUE 50
SHARP 50

3 Use the ⬇ or ⬆ keys to select a setting item, then press the ➡ key or the ENTER key.
The adjustment menu or the setting menu (pop-up menu) appears.

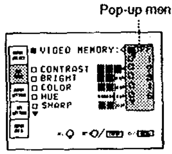
If there are two or more pages for a menu
The ▼ indication appears below the bottom item.
To go to the next page, move the cursor to the bottom item with the ⬇ key, then press the ⬇ key.
To go back to the previous page, move the cursor to the top item with the ⬆ key, then press the ⬆ key.

4 Make adjustment or setting on the menu.

To change the adjustment level
To increase the level, press the ⬆ or ➡ key.
To decrease the level, press the ⬇ or ⬅ key.
Then press the ENTER key to store the adjusted level.
The original screen is restored.


CONTRAST: 80

To select an item
Use the ⬇ or ⬆ key to select an item in a pop-up menu, then press the ⬅ key or the ENTER key. The selected setting is stored and the pop-up menu disappears.


Pop-up menu
VIDEO MEMORY:
CONTRAST
BRIGHT
COLOR
HUE
SHARP

For details on setting individual items, see the relevant menu pages.

To clear the menu display

Press the MENU key.
The menu display also disappears automatically if no key is pressed for about one minute.

To reset the settings that have been adjusted

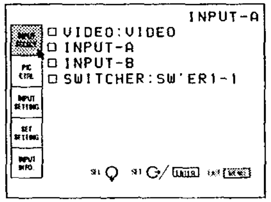
Press the RESET key. "Reset complete!" appears on the screen and the settings appearing on the screen will be reset to the factory preset or initial setting levels.

Memory of the settings

The settings in the menus are automatically stored in the projector memory. You can also store the settings by pressing the MEMORY key.

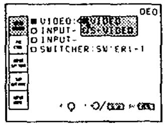
The INPUT SELECT Menu

The INPUT SELECT menu is used for selecting the input signal.
Items that can be selected are highlighted in green.
You cannot select the items indicated in white.


INPUT-A
☐ VIDEO:VIDEO
☐ INPUT-A
☐ INPUT-B
☐ SWITCHER:SW'ER1-1
PC CTRL
INPUT SETTING
SET SETTING
INPUT INFO

VIDEO

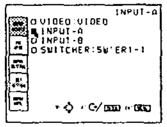
Selects signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors.


VIDEO
S-VIDEO
INPUT-
INPUT-
SWITCHER:SW'ER1-1

Select VIDEO or S-VIDEO in the pop-up menu.

INPUT-A

Selects signal input from the INPUT A connectors.

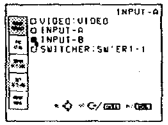

INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

Notes

- When the PC-1271/1271M Signal Interface Switcher is connected to the INPUT A connectors using the 5BNC cables, INPUT-A cannot be selected.
- If the setting of INPUT A in the SET SETTING menu is incorrect, the picture may be distorted.
  For details, see page 29 (EN).

INPUT-B

Selects signal input from the connectors on the signal interface board (not supplied) installed to the INPUT B section.

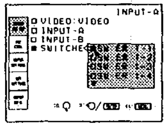

INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

Notes

- When the PC-1271/1271M Signal Interface Switcher is connected to the projector via the IFB-40 Signal Interface Board installed to the INPUT B section, INPUT-B cannot be selected.
- If the setting of INPUT B in the SET SETTING menu is incorrect, the picture may be distorted.
  For details, see page 29 (EN).

SWITCHER

When the PC-1271/1271M Signal Interface Switcher is connected to the projector, selects signal input from the Switcher.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER

You can select SW'ER1-1 to SW'ER2-8 in the pop-up menu. They are always displayed in green even when no signal is input.

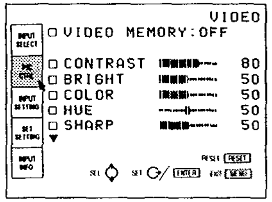
Note

SWITCHER can be selected only when the IFB-40 Signal Interface Board is installed to the INPUT B section, or when 5BNC MODE in the SET SETTING menu is set to ON.

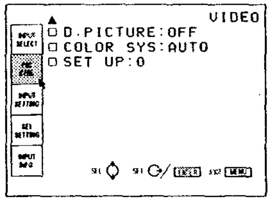
The PIC CTRL (Picture Control) Menu

The PIC CTRL menu is used for adjusting the picture.
Items that can be adjusted are highlighted in green.
You cannot select the items indicated in white.

Page 1

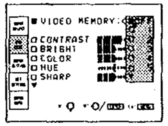

VIDEO
☐ VIDEO MEMORY:OFF
☐ CONTRAST 80
☐ BRIGHT 50
☐ COLOR 50
☐ HUE 50
☐ SHARP 50
RESET
INPUT SELECT
PIC CTRL
INPUT SETTING
SET SETTING
INPUT INFO

Page 2


VIDEO
☐ D.PICTURE:OFF
☐ COLOR SYS:AUTO
☐ SET UP:0

VIDEO MEMORY

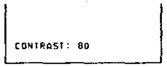
Selects a memory number of the adjusted picture levels.


VIDEO MEMORY
CONTRAST
BRIGHT
COLOR
HUE
SHARP

Select a number from 1 to 10 in the pop-up menu, then the picture levels that have been adjusted will be stored in the number of the projector's memory.
If you want to use the data at the factory preset levels, select OFF.
The items to be stored in the VIDEO MEMORY are shown in the table of the memory architecture under "Input memory" (except for the items, "clamp position" and "registration").

CONTRAST

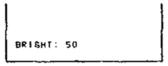
Adjusts the picture contrast.


CONTRAST: 80

The higher the setting, the greater the contrast.
The lower the setting, the lower the contrast.

BRIGHT

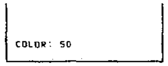
Adjusts the picture brightness.



The higher the setting, the brighter the picture.
The lower the setting, the darker the picture.

COLOR

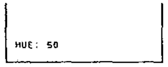
Adjusts color intensity.



The higher the setting, the greater the intensity.
The lower the setting, the lower the intensity.

HUE

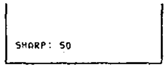
Adjusts skin tones.



At high settings, the picture becomes greenish.
At low settings, the picture becomes purplish.

SHARP

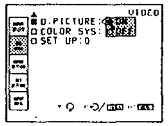
Adjusts the picture sharpness.



The higher the setting, the sharper the picture.
The lower the setting, the softer the picture.

D. (Dynamic) PICTURE

Emphasizes the black of the composite video, S video (Y/C) or component signal.

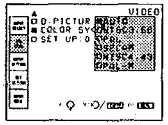


ON: Emphasizes the black to produce a bolder "dynamic" picture.

OFF: Reproduces the dark portions of the picture accurately, in accordance with the source signal.

COLOR SYS (System)

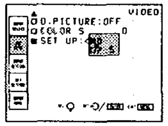
Selects the color system of the composite video or S video (Y/C) signal.



Normally, set to AUTO.
If the picture is distorted or colorless, select the color system according to the input signal.

SET UP

Changes the set up level (standard black level) to 0 IRE or 7.5 IRE according to the NTSC source signal.



0 IRE: Normally, set to this position.

7.5 IRE: Set to this position when the black color is too light.

Input signals and adjustable/setting items

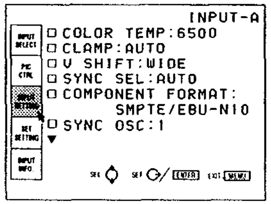
Items	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
CONTRAST	Y	Y	Y	Y
BRIGHT	Y	Y	Y	Y
COLOR	Y	Y	Y	N
HUE	Y (NTSC3.58/ NTSC4.43 system only)	N	Y	N
SHARP	Y	Y	Y	N
D. PICTURE	Y	Y	N	N
COLR SYS	Y	N	N	N
SET UP	Y (NTSC3.58/ NTSC4.43 system only)	N	N	N

Y: Adjustable/can be set
N: Not adjustable/can not be set

The INPUT SETTING Menu

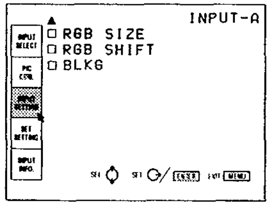
The INPUT SETTING menu is used to adjust the input signal.
Items that can be adjusted are displayed in green.
You cannot select the items indicated in white.

Page 1



```
                         INPUT-A
□ COLOR TEMP:6500
□ CLAMP:AUTO
□ V SHIFT:WIDE
□ SYNC SEL:AUTO
□ COMPONENT FORMAT:
           SMPTE/EBU-N10
□ SYNC OSC:1
▼
```

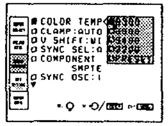
Page 2



```
▲                        INPUT-A
□ RGB SIZE
□ RGB SHIFT
□ BLKG
```

COLOR TEMP (Temperature)

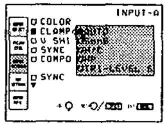
Selects the appropriate color temperature according to your application and the input source signal.



If you wish to make the color of a particular input signal uniform to that of a color monitor, select PRESET, then adjust the white balance.

CLAMP

Corrects the luminance of the input picture.



CLAMP is used as a standard for setting the black level of a picture correctly. The standard position of the clamp depends on the kind of sync signal being used. Normally, the projector CPU judges the signal and sets the position automatically. However, the CPU can misjudge the signal because of noise. If the luminance of the picture seems to be incorrect, the clamp position may need to be changed.

AUTO: Automatic setting mode. Normally set to this position.

SonG: Set to this position if the black seems too light or greenish.

H/C: Set to this position if the picture is too dark or luminance is unstable.

HP: If the luminance is still incorrect after changing to the SonG or H/C position, set to this position and perform the H-SHIFT adjustment.

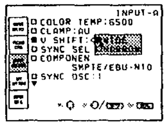
TRI-LEVEL S: Set to this position if the picture is dark when using the tri-level sync.

Note

If the luminance is still incorrect after changing the clamp setting, check the input signal and the connections.

V (Vertical) SHIFT

Sets the adjustable range of the vertical shift of the input signal.

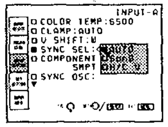

INPUT-A
COLOR TEMP:6500
CLAMP:AU
V SHIFT:
WIDE
NARROW
SYNC SEL
COMPONEN
SMPTE/EBU-N10
SYNC OSC:1

WIDE: Normally, set to this position (factory preset).
NARROW: When some signal such as a superimposed signal with unstable vertical sync. signal is input, the picture may be distorted vertically. In this case, set to this position. Adjustable range in the lower direction will become narrow.

Note
When the video, S video or component signal is input, V SHIFT is fixed to NARROW.

SYNC SEL (select)

Selects the sync. signal.


INPUT-A
COLOR TEMP:6500
CLAMP:AUTO
V SHIFT:W
SYNC SEL:
AUTO
SonG
H/C V
COMPONENT
SMPT
SYNC OSC:

AUTO: Automatic setting mode. Normally set to this position.
SonG: Set to this position if you project the picture using the sync on G signal.
H/C V: Set to this position if you project the picture using the external sync signal.

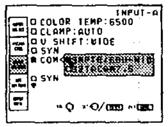
When an HDTV signal is input

You can select the items below instead of the above items.

INT: Set to this position when using the internal sync signal.
EXT (C): Set to this position when using the external composite sync signal.
EXT (HV): Set to this position when using the external horizontal/vertical sync signal.

COMPONENT FORMAT

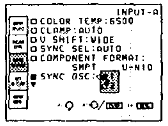
Selects the format of the component input signal.


INPUT-A
COLOR TEMP:6500
CLAMP:AUTO
V SHIFT:WIDE
SYN
COM
SMPTE/EBU-N10
BETACAM7.5
SYN

SMPTE/EBU-N10: Set to this position if the input signal is the SMPTE or EBU-N10 format component signal.
BETACAM7.5: Set to this position if the input signal is the Betacam format component signal.

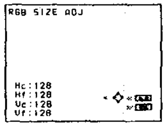
SYNC OSC (oscillation)

Normally, set to 1. When synchronization is distorted according to the type of the input signal, set to 2.


INPUT-A
COLOR TEMP:6500
CLAMP:AUTO
V SHIFT:WIDE
SYNC SEL:AUTO
COMPONENT FORMAT:
SMPT
U-N10
SYNC OSC:
1
2

RGB SIZE

Adjusts the picture size of the input signal.

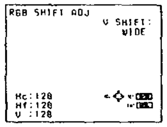

RGB SIZE ADJ
Hc:128
Hf:128
Vc:128
Vf:128

Use the ⬅ or ➡ key to adjust the horizontal size.
Use the ⬆ or ⬇ key to adjust the vertical size.

Hc and Hf show the size adjustment levels for the horizontal direction and Vc and Vf show those for the vertical direction. The higher the setting level, the greater the picture size.

RGB SHIFT

Adjusts the picture position of the input signal.

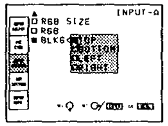

RGB SHIFT ADJ
V SHIFT:
WIDE
Hc:128
Hf:128
V :128

Use the ⬅ or ➡ key to adjust the horizontal position.
Use the ⬆ or ⬇ key to adjust the vertical position.

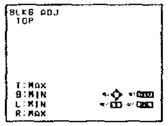
Hc and Hf show the shift adjustment levels for the horizontal direction and V shows the level for the vertical direction.

BLKG (Blanking)

Cuts off the excess parts if the displayed picture is larger than the screen.


INPUT-A
RGB SIZE
RGB
BLKG
TOP
BOTTOM
LEFT
RIGHT

Select the part to be adjusted among TOP, BOTTOM, LEFT and RIGHT, then press the ➡ key or the ENTER key to display the blanking adjustment screen.


BLKG ADJ
TOP
T:MAX
B:MIN
L:MIN
R:MAX

Use the ⬆ or ⬇ key to adjust the TOP and BOTTOM parts.
Use the ⬅ or ➡ key to adjust the LEFT and RIGHT parts.

Input signals and adjustable/setting items

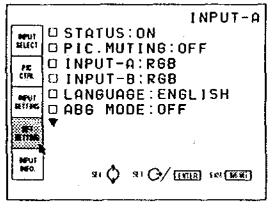
Items	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
COLOR TEMP	Y	Y	Y	Y
CLAMP	N	N	Y	Y
V SHIFT	N	N	Y	Y
SYNC SEL	N	N	Y	Y
COMPONENT FORMAT	N	Y	N	N
SYNC OSC	Y	Y	Y	Y
RGB SIZE	Y	Y	Y	Y
RGB SHIFT	Y	Y	Y	Y
BLKG	Y	Y	Y	Y

Y: Adjustable/can be set
N: Not adjustable/can not be set

The SET SETTING Menu

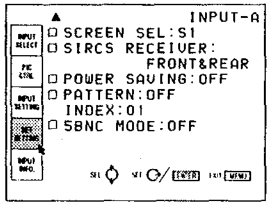
The SET SETTING menu is used for changing the default settings of the projector.
Items that can be adjusted are highlighted in green.
You cannot select the items indicated in white.

Page 1



```
                    INPUT-A
□ STATUS:ON
□ PIC.MUTING:OFF
□ INPUT-A:RGB
□ INPUT-B:RGB
□ LANGUAGE:ENGLISH
□ ABG MODE:OFF
▼
```

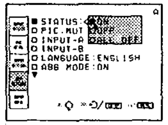
Page 2



```
▲                   INPUT-A
□ SCREEN SEL:S1
□ SIRCS RECEIVER:
            FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
□ 5BNC MODE:OFF
```

STATUS

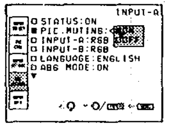
Selects the on-screen display mode.


ON
OFF
ALL OFF

ON: Shows all of the on-screen displays.
OFF: Turns off the on-screen displays except for "NO INPUT," "PIC MUTING," warning messages and menu displays.
ALL OFF: Turns off all of the on-screen displays except for warning messages and menu displays.

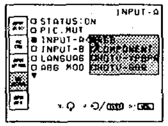
PIC. (picture) MUTING

Set to ON to cut off the picture.
When set to ON, "PIC MUTING" appears on the screen.


INPUT-A
STATUS:ON
PIC.MUTING:
ON
OFF
INPUT-A:RGB
INPUT-B:RGB
LANGUAGE:ENGLISH
ABG MODE:ON

INPUT A

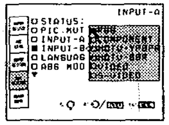
Selects the signal input from the INPUT A connectors.


RGB
COMPONENT
HDTV-YPBPR
HDTV-GBR

RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YP$_B$P$_R$) signal.
HDTV-GBR: Inputs the HDTV (GBR) signal.

INPUT B

Selects the signal input from the IFB-12 Signal Interface Board (not supplied) installed to the INPUT B section.

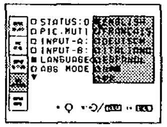

RGB
COMPONENT
HDTV-YPBPR
HDTV-GBR
VIDEO
S-VIDEO

RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YP$_B$P$_R$) signal.
HDTV-GBR: Inputs the HDTV (GBR) signal.
VIDEO: Inputs the composite video signal.
S-VIDEO: Inputs the S video signal.

Note
When a signal interface board other than the IFB-12 is installed, the menu items cannot be selected.

LANGUAGE

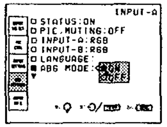
Selects the language used in the on-screen displays.


ENGLISH
FRANCAIS
DEUTSCH
ITALIANO
ESPAÑOL

Available languages are: English, French, German, Italian, Spanish, Japanese and Chinese.

ABG (Automatic Background) MODE

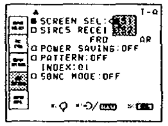
Normally, set to ON (factory setting). Cutoff luminance will be set to a certain level. Set to OFF if you want to erase the horizontal luminescent line for cutoff level detection that may appear at the upper part of the picture.


INPUT-A
STATUS:ON
PIC.MUTING:OFF
INPUT-A:RGB
INPUT-B:RGB
LANGUAGE:
ABG MODE:
ON
OFF

Note
When ABG MODE is set to OFF, the black level of the white balance may change.

SCREEN SEL (Select)

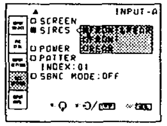
Selects the screen to be used.



S1: Bead screen
S2: Mat screen

SIRCS RECEIVER

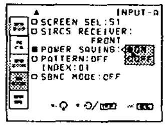
Selects the remote control detectors on the front and rear of the projector, if the wireless remote control does not operate correctly due to the influence of a fluorescent lamp, etc.


FRONT&REAR
FRONT
REAR

FRONT & REAR: Activates both the front and rear detectors.
FRONT: Activates the front detector only.
REAR: Activates the rear detector only.

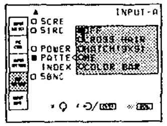
POWER SAVING

When set to ON, the projector goes into the power saving mode if no signal is input for 10 minutes. The screen enters cut-off mode. The power saving mode is canceled when a signal is input or whenever any key is pressed.


INPUT-A
SCREEN SEL:S1
SIRCS RECEIVER:
FRONT
POWER SAVING:
ON
OFF
PATTERN:OFF
INDEX:01
5BNC MODE:OFF

PATTERN

Selects the type of the test pattern to be displayed.

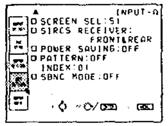


```
                     INPUT-A
□ SCRE
□ SIRC      ■OFF
             CROSS HAIR
□ POWER      HATCH(9X9)
■ PATTE     ◁ME
  INDEX      COLOR BAR
□ 5BNC
```

Selectable patterns are: CROSS HAIR, HATCH (9 × 9), ME and COLOR BAR.
Set to OFF when you do not want to display a test pattern.

INDEX (Index number)

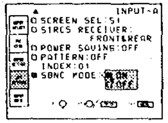
Indicates the index number of the projector set with the INDEX NO. switches on the rear panel.



```
                     INPUT-A
□ SCREEN SEL:S1
□ SIRCS RECEIVER:
             FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
□ 5BNC MODE:OFF
```

5BNC MODE

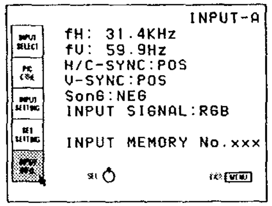
Set to ON when you connect the MONITOR OUT connector on the PC-1271/1271M Signal Interface Switcher to the INPUT A connectors with the 5BNC cables.



```
                     INPUT-A
□ SCREEN SEL:S1
□ SIRCS RECEIVER:
             FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
■ 5BNC MODE:◁■ON
              OFF
```

The INPUT INFO (Information) Menu

The INPUT INFO menu displays the information on the current input signal.



```
                      INPUT-A
fH: 31.4KHz
fV: 59.9Hz
H/C-SYNC:POS
V-SYNC:POS
SonG:NEG
INPUT SIGNAL:RGB

INPUT MEMORY No.xxx
```

fH (Horizontal frequency)

Indicates the horizontal frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

fV (Vertical frequency)

Indicates the vertical frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

H/C (Horizontal/Composite)-SYNC

Indicates the polarity of the horizontal or composite sync. signal. When the picture is being projected using this type of sync signal, the POS (NEG) is displayed in green. When the picture is being projected without using this type of sync signal, the POS (NEG) is displayed in white.

POS: The polarity of the sync signal is positive.
NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

V (Vertical)-SYNC

Indicates the polarity of the vertical or the composite sync. signal.
When the picture is being projected using this type of sync. signal, the POS (NEG) is displayed in green.
When the picture is being projected without using this type of sync. signal, the POS (NEG) is displayed in white.

POS: The polarity of the sync. signal is positive.
NEG: The polarity of the sync. signal is negative.
– – –: No sync. signal is input.

SonG (Sync on Green)

Indicates the polarity of the sync. on Green. When the picture is being projected using this type of sync. signal, the NEG is displayed in green. When the picture is being projected without using this type of sync. signal, the NEG is displayed in white.

NEG: The polarity of the sync. signal is negative.
– – –: No sync. signal is input.

INPUT SIGNAL

Displays the type of current input signal.

NTSC 3.58: NTSC $_{3.58}$ input signal
PAL: PAL input signal
SECAM: SECAM input signal
NTSC 4.43: NTSC $_{4.43}$ input signal
PAL-M: PAL-M input signal
B/W: Black and white input signal
Y/C: S video input signal
RGB: RGB input signal
COMPONENT: Component input signal
HDTV YPBPR: HDTV YP$_B$P$_R$ input signal
HDTV GBR: HDTV GBR input signal
IDTV: IDTV input signal from the optional PC-1271/1271M Signal Interface Switcher via the optional IFB-3000 Interface Board installed to the PC-1271/1271M.

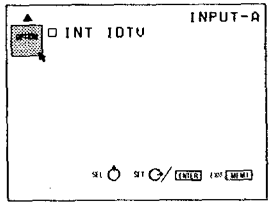
INPUT MEMORY NO.

Indicates the memory number of the current input signal.
By default seven basic data are preset in the following memory numbers.

Memory number	Preset signal frequencies		Types of the input signal
	fH	fV	
00	15.7 kHz	60 Hz	Video (NTSC$_{3.58}$)
01	24.8 kHz	56 Hz	RGB
02	31.5 kHz	60 Hz	RGB
03	48.3 kHz	60 Hz	RGB
04	64.0 kHz	60 Hz	RGB
05	75.0 kHz	60 Hz	RGB
06	93.7 kHz	75 Hz	RGB
07	106.3 kHz	85 Hz	RGB
08	31.5 kHz	60 Hz	IDTV (NTSC$_{3.58}$)
09	33.8 kHz	60 Hz	HDTV (Y/P$_B$/P$_R$)

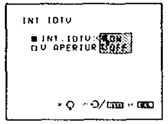
The OPTION Menu

The OPTION menu is used when installing the EXB-DS10 Extension Board to the projector.


INT IDTV
INPUT-A
SEL
SET
ENTER
EXIT
MENU

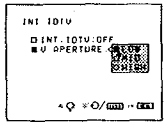
INT. (internal) IDTV

Set to ON to project the video, S video, component or RGB (15 kHz) signal at double density.


INT IDTV
INT. IDTV: ON
OFF
V APERTURE

V. (vertical) APERTURE

Corrects the sharpness in the vertical direction. You can set the sharpness to the LOW, MID (middle) or HIGH level.

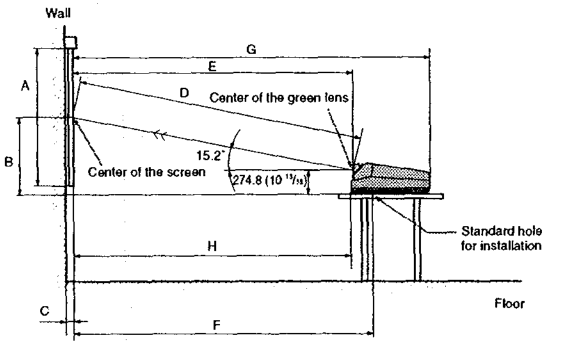

INT IDTV
INT. IDTV: OFF
V APERTURE: LOW
MID
HIGH

Installation Examples

Installation and the preliminary adjustments should be carried out by Qualified Sony Personnel. This projector allows you to project the picture between 60 and 300 inches.

Installation 1 Floor Installation Using Front Projection Flat Screen

Be sure that the projector is level to the floor.


Wall
A
B
C
D
E
G
H
F
Center of the green lens
Center of the screen
15.2°
274.8 (10 13/16)
Standard hole for installation
Floor

B: Difference in height between the projector's bottom surface and the center of the screen
E: Horizontal distance between the center of the screen and the center of the green lens
F: Horizontal distance between the center of the screen and the standard hole for installation

Tolerances
B: ±5%
Other measurements: 0% to +5%

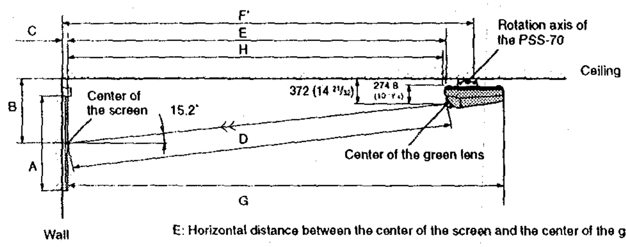
The distances in gray are the factory preset settings. Unit:mm (inches)

Screen size (inches)	60	70	80	90	100	120	150	180	200	250	300
A (Vsize)	914 (36)	1067 (42 1/8)	1219 (48)	1372 (54 1/8)	1524 (60)	1829 (72 1/8)	2286 (90)	2743 (108)	3048 (120)	3810 (150)	4572 (180)
B (Hcent)	725 (28 5/8)	794 (31 3/8)	865 (34 1/8)	935 (36 7/8)	1005 (39 5/8)	1145 (45 1/8)	1356 (53 1/2)	1566 (61 3/4)	1707 (67 1/4)	2058 (81 1/8)	2410 (95)
C (Width)					28[a] 32[b] (1 1/8) (1 5/16)	32[c] (1 5/16)					
D (TD)	1727 (68)	1990 (78 3/8)	2256 (88 7/8)	2522 (99 3/8)	2787 (109 3/4)	3318 (130 5/8)	4117 (162 1/8)	4916 (193 5/8)	5446 (214 1/2)	6778 (266 7/8)	8117 (319 5/8)
E (Xlens)	1668 (65 3/4)	1921 (75 3/4)	2177 (85 3/4)	2434 (92 1/4)	2689 (105 7/8)	3200 (126)	3972 (156 1/2)	4743 (186 3/4)	5254 (206 7/8)	6539 (257 1/2)	7831 (308 3/8)
F (Lhole)	1888 (74 3/8)	2141 (84 3/8)	2397 (94 3/8)	2654 (104 1/2)	2910 (114 5/8)	3420 (134 3/4)	4193 (165 1/8)	4964 (195 1/2)	5475 (215 5/8)	6760 (266 1/4)	8051 (317)
G (Lmax)	2575 (101 1/2)	2828 (111 3/8)	3084 (121 1/2)	3341 (131 5/8)	3596 (141 5/8)	4107 (161 3/4)	4879 (192 1/8)	5650 (222 1/2)	6161 (242 5/8)	7446 (293 1/4)	8738 (344 1/8)
H (Lfront)	1627 (64 1/8)	1880 (74 1/8)	2136 (84 1/8)	2393 (94 1/4)	2648 (104 3/8)	3159 (124 3/8)	3931 (154 7/8)	4702 (185 1/8)	5213 (205 1/4)	6498 (255 7/8)	7790 (306 3/4)

a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

Installation 2 Ceiling Installation Using Front Projection Flat Screen

Use the PSS-70 projector suspension support (not supplied).


F'
E
H
C
B
A
Rotation axis of the PSS-70
Ceiling
Center of the screen
15.2°
372 (14 21/32)
274.8 (10 7/8)
D
Center of the green lens
G
Wall

E: Horizontal distance between the center of the screen and the center of the green lens

Tolerances
B: ±5%
Other measurements: 0% to +5%

The distances in gray are the factory preset settings. Unit:mm (inches)

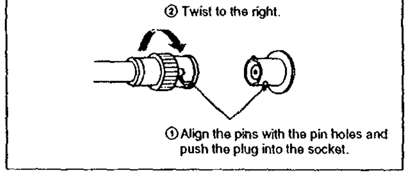
Screen size (inches)	60	70	80	90	100	120	150	180	200	250	300
A (Vsize)	914 (36)	1067 (42 1/8)	1219 (48)	1372 (54 1/8)	1524 (60)	1829 (72 1/8)	2286 (90)	2743 (108)	3048 (120)	3810 (150)	4572 (180)
B (Hcent)	822 (32 3/8)	891 (35 1/8)	961 (37 7/8)	1032 (40 3/4)	1102 (43 1/2)	1241 (48 7/8)	1452 (57 1/4)	1663 (65 1/2)	1804 (71 1/8)	2155 (84 7/8)	2507 (98 3/4)
C (Width)					28a) 32b) (1 1/8) (1 5/16)	32c) (1 5/16)					
D (TD)	1727 (68)	1990 (78 3/8)	2256 (88 7/8)	2522 (99 3/8)	2787 (109 3/4)	3316 (130 5/8)	4117 (162 1/8)	4916 (193 5/8)	5446 (214 1/2)	6778 (266 7/8)	8117 (319 5/8)
E (Xlens)	1668 (65 3/4)	1921 (75 3/4)	2177 (85 3/4)	2434 (92 1/4)	2689 (105 7/8)	3200 (128 1/4)	3972 (156 1/2)	4743 (186 3/4)	5254 (206 7/8)	6539 (257 1/2)	7831 (308 3/8)
F' (Lpss)	1990 (78 3/8)	2243 (88 3/8)	2500 (98 1/2)	2756 (108 5/8)	3012 (118 5/8)	3523 (138 3/4)	4295 (169 1/8)	5066 (199 1/2)	5577 (219 5/8)	6862 (270 1/4)	8154 (321 1/8)
G (Lmax)	2575 (101 1/2)	2828 (111 3/8)	3084 (121 1/2)	3341 (131 5/8)	3596 (141 5/8)	4107 (161 3/4)	4879 (192 1/8)	5650 (222 1/2)	6161 (242 5/8)	7446 (293 1/4)	8738 (312 1/8)
H (Lfront)	1627 (64 1/8)	1880 (74 1/8)	2136 (84 1/8)	2393 (94 1/4)	2648 (104 3/8)	3159 (124 3/8)	3931 (154 7/8)	4702 (185 1/8)	5213 (205 1/4)	6498 (255 7/8)	7790 (304 3/4)

a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

Connection Examples

When making connections:
- Before connecting any cables, make sure that each piece of equipment to be connected is turned off.
- Use cables appropriate for the equipment to be connected.
- A loose connection may cause hum or noise.
- When disconnecting a cable, pull it out from the plug; not the cable itself.
- Also refer to the instruction manual of the equipment to be connected.

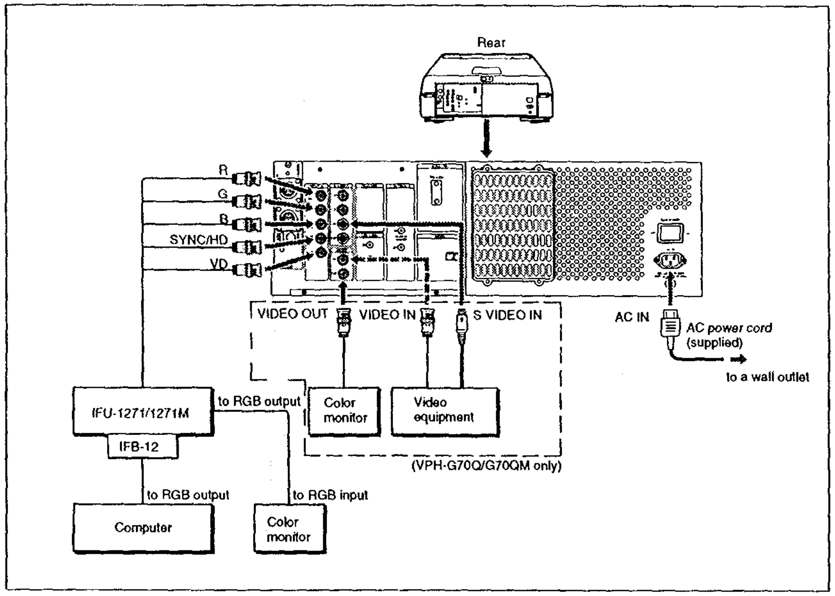
Connecting a BNC connector:


② Twist to the right.

① Align the pins with the pin holes and push the plug into the socket.

Connecting Directly to the Projector

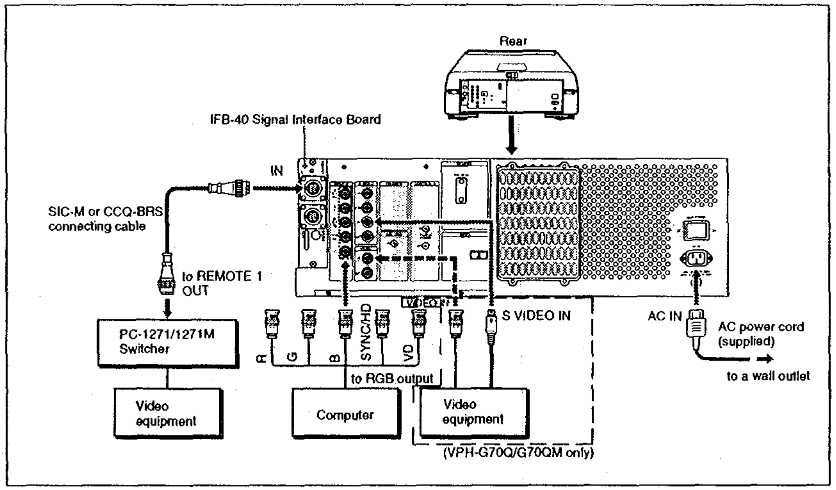
Use the IFU-1271/1271M Signal Interface Unit.


Rear
R
G
B
SYNC/HD
VD
VIDEO OUT
VIDEO IN
S VIDEO IN
AC IN
AC power cord (supplied)
to a wall outlet
IFU-1271/1271M
IFB-12
to RGB output
Color monitor
Video equipment
(VPH-G70Q/G70QM only)
to RGB output
Computer
to RGB input
Color monitor

Setting up
Set INPUT-A in the SET SETTING menu to RGB.
For details, see "The SET SETTING Menu" on page 29 (EN).

Using the Signal Interface Switcher

When you connect the PC-1271/1271M Signal Interface Switcher (not supplied) to the IFB-40 Signal Interface Board (installed on the projector by default), you can connect easily various input sources.



Choose the appropriate cable from the following table.

1 m	2 m	5 m	10 m	15 m	25 m	50 m
—	CCQ-2BRS	CCQ-5BRS	CCQ-10BRS	—	CCQ-25BRS	CCQ-50BRS
SIC-M-1	—	SIC-M-5	—	SIC-M-15	SIC-M-25	SIC-M-50

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

Setting up

- Set INPUT-A in the SET SETTING menu to RGB.
  For details, see "The SET SETTING Menu" on page 29 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.

Troubleshooting

If the projector appears to be operating erratically, try to diagnose and correct the problem using the following guide. If the problem still persists, consult with qualified Sony personnel.

Symptom	Cause	Remedy
The power does not turn on.	The MAIN POWER switch is turned off.	Press the MAIN POWER switch on the projector *(see page 15 (EN))*.
The power turns on and immediately turns off.	There may be an internal problem.	Check the error code in the error code window on the rear of the projector and consult with qualified personnel.
Picture does not appear.	If no menu appears, external signal and/or sync is not input correctly.	Check the input signal and sync in the INPUT INFO menu and connect them correctly *(see page 32 (EN))*.
	If menu appears with no input, sync connection is not correct.	Check SYNC SEL in the INPUT SETTING menu and connect the sync correctly, if necessary *(see page 26 (EN))*.
	If no menu appears with no input, there may be an internal problem.	Consult with qualified personnel.
Picture is too dark.	Contrast is set to minimum.	Adjust the contrast with the CONTR + key *(see page 17 (EN))*.
	Clamp setting is not correct.	Change the clamp setting in the INPUT SETTING menu *(see page 26 (EN))*.
Picture is distorted.	The input signal is not selected correctly.	Select a correct signal in the INPUT A or INPUT B option in the SET SETTING menu *(see page 29 (EN))*.

1-2. INSTALLATION MANUAL FOR DEALERS

Installation Procedures

By default, this projector is adjusted for 120-inch front projection on the floor/desk. If you install the projector in other conditions, you have to change some settings. Therefore, installation procedures depend on the screen size or type, and installation method.

① Verify the conditions of installation, such as angle of optical axis, projection distance, height of the projector and screen.

↓

② Change the polarity according to the projection patterns. *(page 20 (EN))*

↓

③ Install the projector and screen. *(page 9 (EN))*

↓

④ Reset the registration data to factory setting. *(page 108 (EN))*

↓

⑤ Adjust the CRT conversion angle. *(page 23 (EN))*

↓

⑥ Adjust the lens focus and flapping of the lens. *(page 64 (EN))*

↓

⑦ Adjust the magnetic focus and AQP (Axis Quadrupole)/DQP (Diagonal Quadrupole). *(page 68 (EN))*

↓

⑧ Adjust the registrations. *(page 73 (EN))*

↓

⑨ Connect other equipment. *(page 27 (EN))*

↓

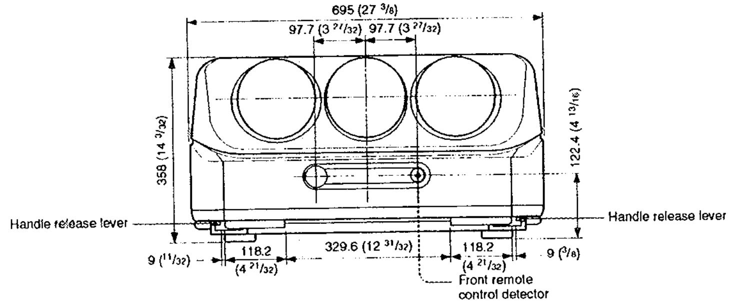
⑩ Adjust each input signal. *(pages 96 (EN) to 104 (EN))*
- Fine adjustment for the magnetic focus and registrations. *(pages 96 (EN) and 100 (EN))*
- Adjust the size or shift of the picture. *(pages 98 (EN) and 101 (EN))*
- Adjust the blanking. *(pages 99 (EN) and 102 (EN))*

Installation Diagrams

Necessary Clearance for Installation and Maintenance

Make sure to provide enough room for maintenance service. Install the projector, making reference to the dimensions below.
There should be a space of at least 30 cm (1 $^{3}/_{16}$ inches) around the ventilation holes at the rear. Never block the holes with any material.

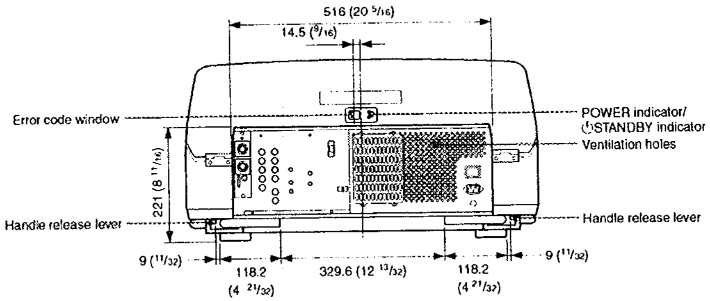
Front


695 (27 3/8)
97.7 (3 27/32)
97.7 (3 27/32)
358 (14 3/32)
122.4 (4 13/16)
Handle release lever
Handle release lever
9 (11/32)
118.2
(4 21/32)
329.6 (12 31/32)
118.2
(4 21/32)
9 (3/8)
Front remote
control detector

Mass: 83 kg (182 lb 16 oz)

Unit: mm (inches)

Rear


516 (20 5/16)
14.5 (9/16)
Error code window
221 (8 11/16)
Handle release lever
POWER indicator/
STANDBY indicator
Ventilation holes
Handle release lever
9 (11/32)
118.2
(4 21/32)
329.6 (12 13/32)
118.2
(4 21/32)
9 (11/32)

Unit: mm (inches)

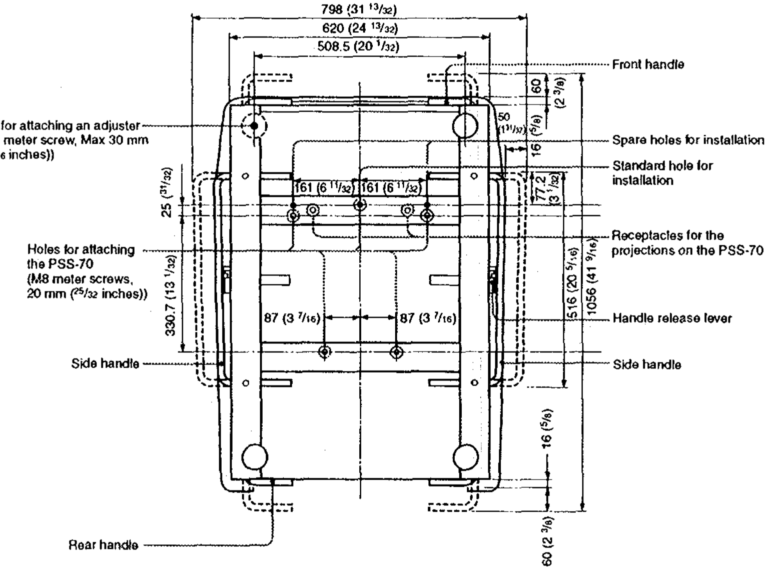
Installation Diagrams

Bottom

The standard hole for installation on the bottom surface is useful for reference when measuring for installation. There are seven holes on the bottom surface of the projector. For ceiling installation using the optional PSS-70 Projector Suspension Support, use five holes to attach the PSS-70. The other two holes are spare ones.

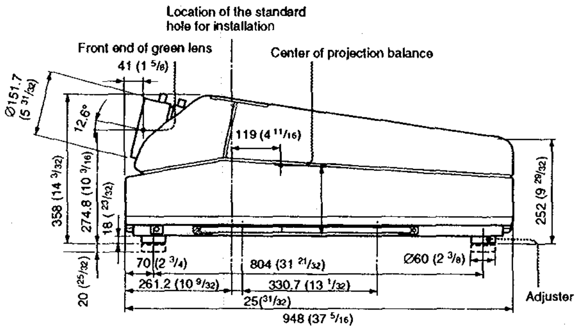
Notes

- Use only the M8 meter screws of 10 mm ($^{13}/_{32}$ inches) to 30 mm (1 $^{3}/_{16}$ inches) long for the attachment holes for the PSS-70.
- When attaching the PSS-70, use the M8 meter screws of 20 mm ($^{25}/_{32}$ inches) supplied with the PSS-70.

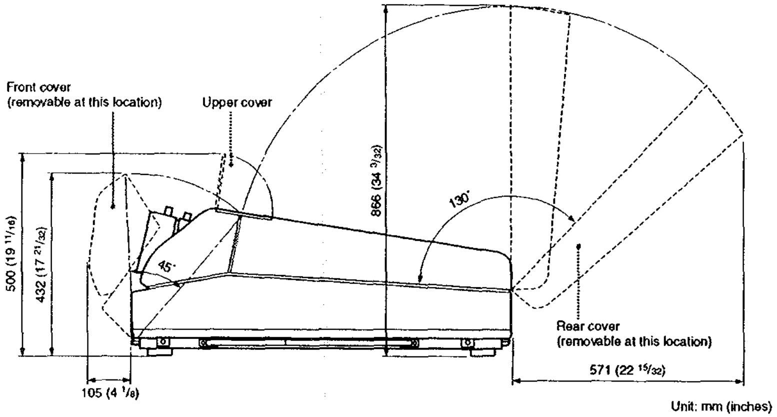

798 (31 13/32)
620 (24 13/32)
508.5 (20 1/32)
Front handle
60 (2 3/8)
50 (1 31/32)
16 (5/8)
Spare holes for installation
Standard hole for installation
77.2 (3 1/32)
161 (6 11/32)
161 (6 11/32)
Receptacles for the projections on the PSS-70
516 (20 5/16)
1056 (41 9/16)
Handle release lever
Side handle
16 (5/8)
60 (2 3/8)
87 (3 7/16)
87 (3 7/16)
Hole for attaching an adjuster (M10 meter screw, Max 30 mm (1 3/16 inches))
25 (31/32)
Holes for attaching the PSS-70 (M8 meter screws, 20 mm (25/32 inches))
330.7 (13 1/32)
Side handle
Rear handle

Unit: mm (inches)

Side


Location of the standard hole for installation
Front end of green lens
41 (1 5/8)
Center of projection balance
Ø151.7 (5 31/32)
12.6°
119 (4 11/16)
358 (14 3/32)
274.8 (10 13/16)
18 (23/32)
20 (25/32)
70 (2 3/4)
261.2 (10 9/32)
804 (31 21/32)
330.7 (13 1/32)
25 (31/32)
948 (37 5/16)
Ø60 (2 3/8)
252 (9 29/32)
Adjuster

With the covers open


Front cover (removable at this location)
Upper cover
500 (19 11/16)
432 (17 21/32)
45°
130°
866 (34 3/32)
Rear cover (removable at this location)
571 (22 15/32)
105 (4 1/8)

Unit: mm (inches)

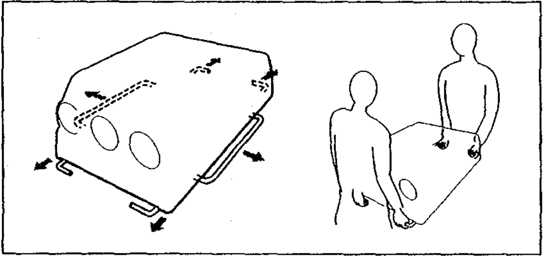
Installation Diagrams

Using the Handles to Carry the Projector

You can carry the projector by using the front, rear and side (right and left) handles.

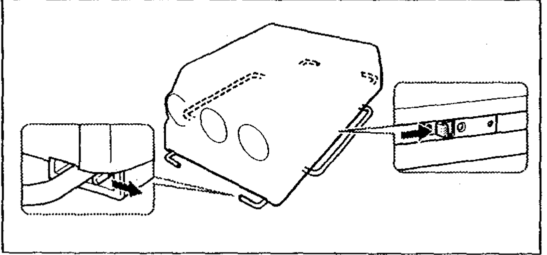
Using the handles

Pull out the front and rear handles or the side handles.



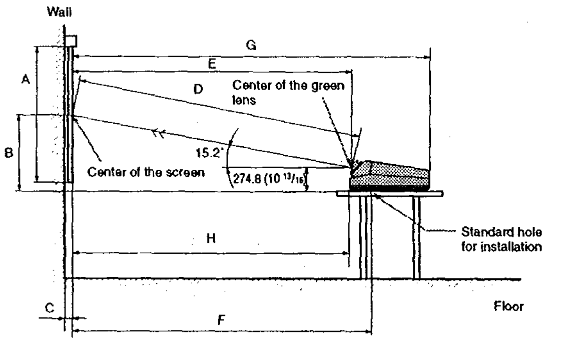
Putting away the handles

Push the handle release lever under each handle. The handle is automatically retracted.



Floor Installation Using Front Projection Flat Screen

Be sure that the projector is level to the floor.



B: Difference in height between the projector's bottom surface and the center of the screen
E: Horizontal distance between the center of the screen and the center of the green lens
F: Horizontal distance between the center of the screen and the standard hole for installation

Tolerances
B: ±5%
Other measurements: 0% to +5%

The distances in gray are the factory preset settings. Unit:mm (inches)

Screen size (inches)	60	70	80	90	100	120	150	180	200	250	300
A (Vsize)	914 (36)	1067 (42 1/8)	1219 (48)	1372 (54 1/8)	1524 (60)	1829 (72 1/8)	2286 (90)	2743 (108)	3048 (120)	3810 (150)	4572 (180)
B (Hcent)	725 (28 5/8)	794 (31 3/8)	865 (34 1/8)	935 (36 7/8)	1005 (39 5/8)	1145 (45 1/8)	1356 (53 1/2)	1566 (61 3/4)	1707 (67 1/4)	2058 (81 1/8)	2410 (95)
C (Width)				28a) (1 1/8)	32b) (1 5/16)	32c) (1 5/16)					
D (TD)	1727 (68)	1990 (78 3/8)	2256 (88 7/8)	2522 (99 3/8)	2787 (109 3/4)	3316 (130 5/8)	4117 (162 1/8)	4916 (193 5/8)	5446 (214 1/2)	6778 (266 7/8)	8117 (319 5/8)
E (Xlens)	1668 (65 3/4)	1921 (75 3/4)	2177 (85 3/4)	2434 (92 1/4)	2689 (105 7/8)	3200 (126)	3972 (156 1/2)	4743 (186 3/4)	5254 (206 7/8)	6539 (257 1/2)	7831 (308 3/8)
F (Lhole)	1888 (74 3/8)	2141 (84 3/8)	2397 (94 3/8)	2654 (104 1/2)	2910 (114 5/8)	3420 (134 3/4)	4193 (165 1/8)	4964 (195 1/2)	5475 (215 5/8)	6760 (266 1/4)	8051 (317)
G (Lmax)	2575 (101 1/2)	2828 (111 3/8)	3084 (121 1/2)	3341 (131 5/8)	3596 (141 5/8)	4107 (161 3/4)	4879 (192 1/8)	5650 (222 1/2)	6161 (242 5/8)	7446 (293 1/4)	8738 (344 1/8)
H (Lfront)	1627 (64 1/8)	1880 (74 1/8)	2136 (84 1/8)	2393 (94 1/4)	2648 (104 3/8)	3159 (124 3/8)	3931 (154 7/8)	4702 (185 1/8)	5213 (205 1/4)	6498 (255 7/8)	7790 (306 3/4)

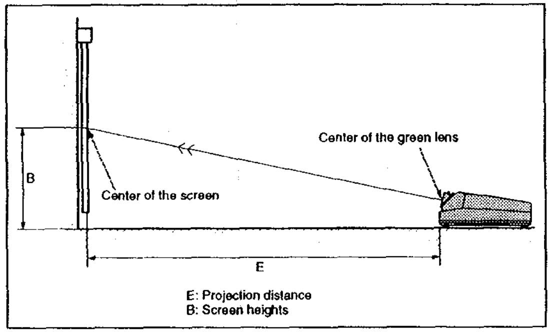
a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

When the Screen Size is not Mentioned in the Tables

You can calculate the installation measurements described below when you use the screen whose size is not mentioned in the tables on pages 9 (EN) and 11 (EN).

Check your installation conditions:

- Screen size to be used (S)
- Installation measurements at the end of the manual, EL and BL for larger screen size and ES and BS for smaller screen size
  See the tables on pages 123 (EN) to 129 (EN).


Center of the green lens
B
Center of the screen
E
E: Projection distance
B: Screen heights

Now you can calculate the installation measurements as follows:
E (mm) = ES + ((S – smaller screen size) × (EL – ES) × 0.1)
B (mm) = BS + ((S – smaller screen size) × (BL – BS) × 0.1) + 275

Example: when using 124-inch screen

According to the tables on page 125 (EN), the values E and B are as follows:

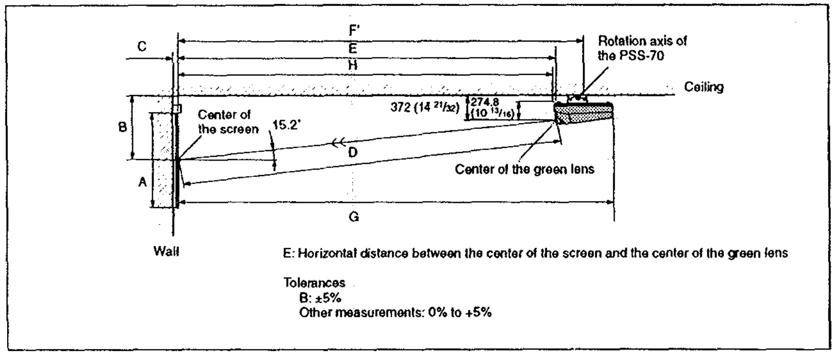
ES = 3200, BS = 870 (As the smaller screen size is 120 inch.)
EL = 3457, BL = 940 (As the smaller screen size is 130 inch.)

Therefore,

E (mm) = 3200 + ((124 – 120) × (3457 – 3200) × 0.1) = 3303 (mm)
B (mm) = 870 + ((124 – 120) × (940 – 870) × 0.1) + 275 = 1173 (mm)

Ceiling Installation Using Front Projection Flat Screen

Use the PSS-70 Projector Suspension Support (not supplied).


F'
E
H
C
Rotation axis of the PSS-70
Ceiling
Center of the screen
15.2°
372 (14 21/32)
274.8 (10 13/16)
B
D
Center of the green lens
A
G
Wall
E: Horizontal distance between the center of the screen and the center of the green lens
Tolerances
B: ±5%
Other measurements: 0% to +5%

The distances in gray are the factory preset settings. Unit:mm (inches)

Screen size (inches)	60	70	80	90	100	120	150	180	200	250	300
A (Vsize)	914 (36)	1067 (42 1/8)	1219 (48)	1372 (54 1/8)	1524 (60)	1829 (72 1/8)	2286 (90)	2743 (108)	3048 (120)	3810 (150)	4572 (180)
B (Hcent)	822 (32 3/8)	891 (35 1/8)	961 (37 7/8)	1032 (40 3/4)	1102 (43 1/2)	1241 (48 7/8)	1452 (57 1/4)	1663 (65 1/2)	1804 (71 1/8)	2155 (84 7/8)	2507 (98 3/4)
C (Width)					28[a] 32[b] (1 1/8) (1 5/16)	32[c] (1 5/16)					
D (TD)	1727 (68)	1990 (78 3/8)	2256 (88 7/8)	2522 (99 3/8)	2787 (109 3/4)	3316 (130 5/8)	4117 (162 1/8)	4916 (193 5/8)	5446 (214 1/2)	6778 (266 7/8)	8117 (319 5/8)
E (Xlens)	1668 (65 3/4)	1921 (75 3/4)	2177 (85 3/4)	2434 (92 1/4)	2689 (105 7/8)	3200 (126 1/4)	3972 (156 1/2)	4743 (186 3/4)	5254 (206 7/8)	6539 (257 1/2)	7831 (308 3/8)
F' (Lpss)	1990 (78 3/8)	2243 (88 3/8)	2500 (98 1/2)	2756 (108 5/8)	3012 (118 5/8)	3523 (138 3/4)	4295 (169 1/8)	5066 (199 1/2)	5577 (219 5/8)	6862 (270 1/4)	8154 (321 1/8)
G (Lmax)	2575 (101 1/2)	2828 (111 3/8)	3084 (121 1/2)	3341 (131 5/8)	3596 (141 5/8)	4107 (161 3/4)	4879 (192 1/8)	5650 (222 1/2)	6161 (242 5/8)	7446 (293 1/4)	8738 (312 1/8)
H (Lfront)	1627 (64 1/8)	1880 (74 1/8)	2136 (84 1/8)	2393 (94 1/4)	2648 (104 3/8)	3159 (124 3/8)	3931 (154 7/8)	4702 (185 1/8)	5213 (205 1/4)	6498 (255 7/8)	7790 (304 3/4)

a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

Necessary parts modifications

Changing the polarity used for "Ceiling installation, front projection"
For details, see "Changing the Polarity" on page 20 (EN).

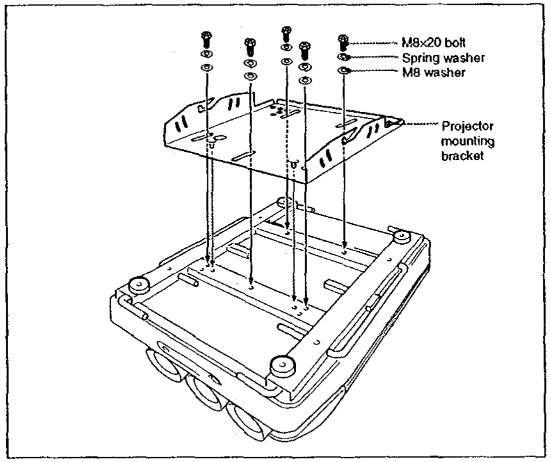
Installation Diagrams

Attaching the PSS-70 Projector Suspension Support

Attach the projector mounting bracket to the bottom surface of the projector.
Use five each of the M8×20 bolts, M8 washers and spring washers, all of which are supplied with the PSS-70.

1 Align the two projections on the projector mounting bracket with the receptacles on the bottom surface of the projector.

2 Fasten the five bolts and washers to fix the mounting bracket to the five holes for attaching the PSS-70 on the bottom surface of the projector.



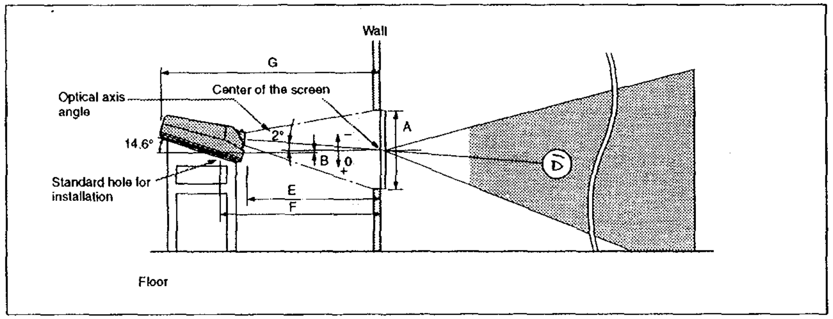
For attaching the PSS-70 to the ceiling, refer to the Installation Manual of the PSS-70 Projector Suspension Support.

Floor Installation Using Rear Projection Flat Screen

What is the optical axis angle?

The optical axis angle is the angle between the horizontal level line and the straight line from the center of the projector's green lens to the center of the screen. When using a rear projection screen, you can get the brightest picture when the center of the screen is aligned with a straight line extension of the center of the green lens.
Therefore, the most suitable optical axis angle varies depending on the height of the screen and your line of sight.

When the optical axis angle is 2°



The distances in gray are the factory preset settings. Unit: mm (inches)

Screen size (inches)	60	70	80	90	100	120	150	180	200	250	300
A (Vsize)	914 (36)	1067 (42 1/8)	1219 (48)	1372 (54 1/8)	1524 (60)	1829 (72 1/8)	2286 (90)	2743 (108)	3048 (120)	3810 (150)	4572 (180)
B (Hcent)	118 (4 3/4)	109 (4 3/8)	99 (4)	90 (3 5/8)	81 (3 1/4)	62 (2 1/2)	33 (1 5/16)	5 (7/32)	–14 (–9/16)	–61 (21/32)	–109 (–4 3/8)
E (Xlens)	1757 (69 1/4)	2024 (79 3/4)	2294 (90 3/8)	2564 (101)	2834 (111 5/8)	3371 (132 3/4)	4185 (164 7/8)	4997 (196 3/4)	5536 (218)	6889 (271 1/4)	8250 (324 7/8)
F (Lhole)	2036 (80 1/4)	2302 (90 3/4)	2573 (101 3/8)	2843 (112)	3112 (122 5/8)	3650 (143 3/4)	4464 (175 3/4)	5276 (207 3/4)	5814 (229)	7168 (282 1/4)	8529 (335 7/8)
G (Lmax)	2700 (106 3/8)	2966 (116 7/8)	3236 (127 1/2)	3507 (138 1/8)	3776 (148 3/4)	4814 (169 7/8)	5128 (202)	5940 (233 7/8)	6478 (255 1/8)	7832 (308 3/8)	9193 (362)

Necessary parts modifications

Changing the polarity used for "Floor installation, rear projection"
For details, see "Changing the Polarity" on page 20 (EN).

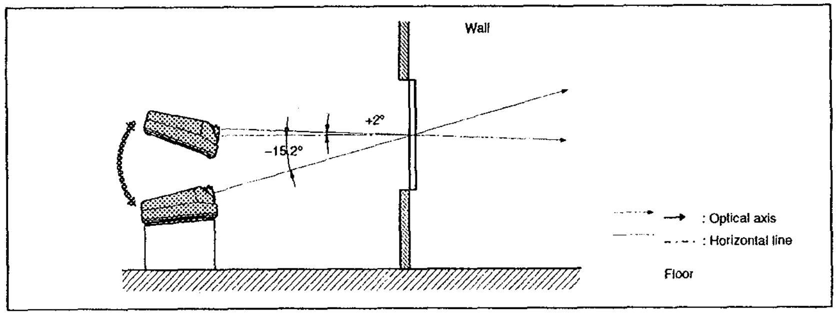
Installation Diagrams

Variable Range of the Optical Axis Angle in Rear Projection

You can change the optical axis angle within the following ranges by adjusting flapping of the lens.
For adjusting flapping of the lens, see "Adjusting flapping of the green lens" on page 66 (EN).

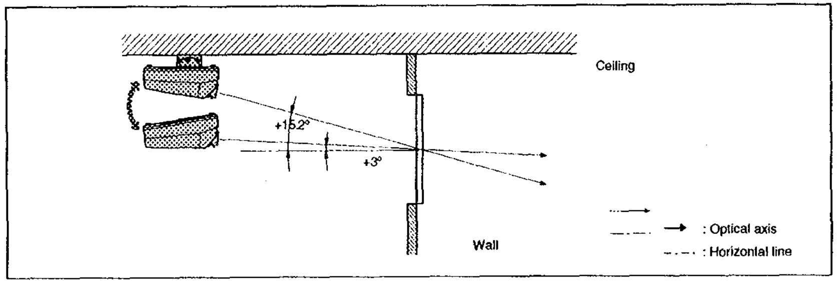
On floor installation

You can install the projector within an angle of optical axis –15.2° to +2°.



On ceiling installation

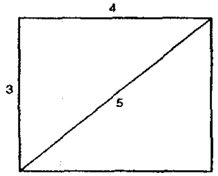
You can install the projector within an angle of optical axis +3° to +15.2°.



Notes on Screen

Screen size

The screen size is the diagonal length of the screen in inches, while the aspect ratio of the screen is 3:4. The ratio of the screen height, width and diagonal is 3:4:5.



If you use a screen with 3:4 aspect ratio whose size is not given in the table below, you can calculate the screen height and width from the screen size (inches) as follows.
Calculate at the conversion rate of 25.4 mm to the inch.

Height (mm) = Screen size × 25.4 × $^3/_5$
Width (mm) = Screen size × 25.4 × $^4/_5$

Screen size and dimensions

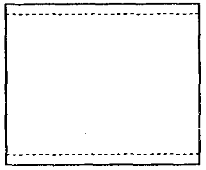
Screen size (Inches) (Diagonal)	Height (mm)	Width (mm)
60	914	1219
70	1067	1422
80	1219	1626
90	1372	1829
100	1524	2032
120	1829	2438
150	2286	3048
180	2743	3658
200	3048	4064
250	3810	5080
300	4572	6096

Installation Diagrams

Screens with an aspect ratio other than 3:4

When the height is greater

Calculate the screen size with 3:4 aspect ratio from the screen height as shown below. Install the projector and screen in accordance with the screen size obtained.



--- : Screen whose aspect ratio is 3:4

Screen size (inch) = (height (mm) × $^5/_3$) × $^1/_{25.4}$
Example: When the screen height is 1500 mm
(1500 (mm) × $^5/_3$) × $^1/_{25.4}$ = Approx. 98 inches

When the width is greater

Calculate the screen size with 3:4 aspect ratio from the screen width as shown below. Install the projector and screen in accordance with the screen size obtained.

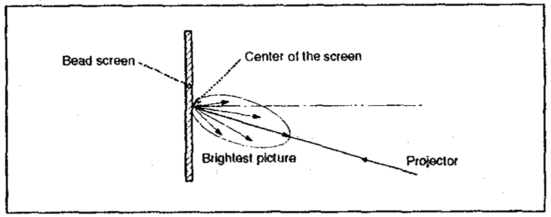
---: Screen whose aspect ratio is 3:4

Screen size (inch) = (width (mm) × $^5/_4$) × $^1/_{25.4}$
Example: When the screen width is 2000 mm
(2000 (mm) × $^5/_4$) × $^1/_{25.4}$ = Approx. 98 inches

Types of screen

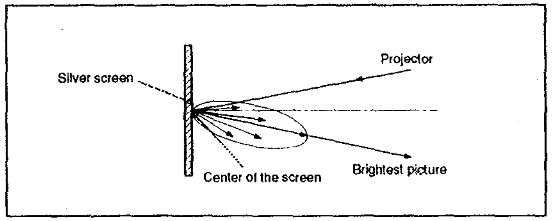
Front projection screen for floor installation

The bead screen is recommended. A screen of this type reflects the brightest light.


Bead screen
Center of the screen
Brightest picture
Projector

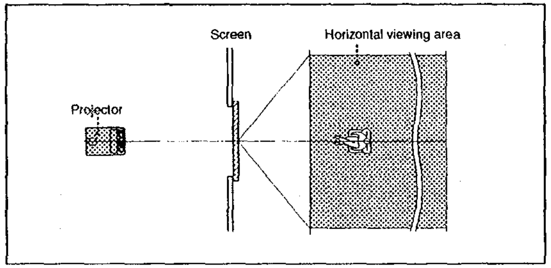
Front projection screen for ceiling installation

The silver screen is recommended. You can get a picture that is two to four times brighter than that of the white screens.


Silver screen
Projector
Center of the screen
Brightest picture

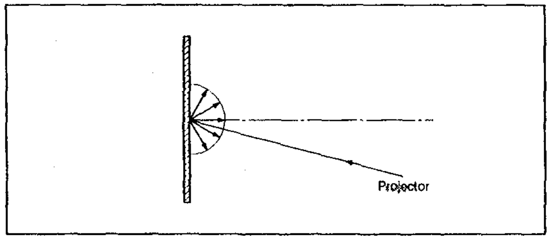
Rear projection screen

A screen manufactured using two sheets, the fresnel and lenticular, is recommended for a bright and clear full-screen picture projection.


Screen
Horizontal viewing area
Projector

White screen

When viewers watch the projected picture in a wide area, you can obtain a picture that appears equally bright from all parts of the room using the white screen for both floor and ceiling installations. Note that you will not be able to get a clear picture in this case unless the room is dark.



Modifying Parts

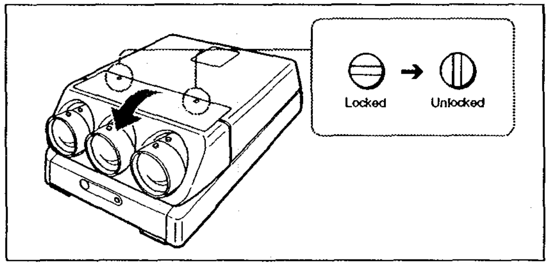
Removing the Upper, Front and Rear Covers

Most modifications can be performed only by opening the upper cover.

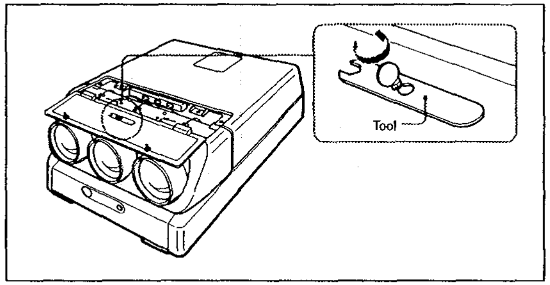
Opening the upper cover

1 Turn off the main power of the projector.

2 Unlock the two screws on the projector by using a screwdriver or a coin edge, and then open the upper cover.



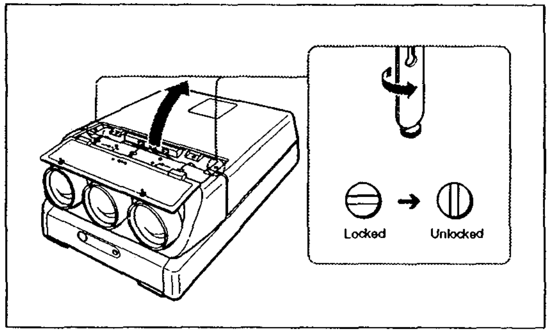
To remove the supplied tool
The tool is located on the back of the upper cover.
Loosen the screw by using a screwdriver or a coin edge and remove the tool.



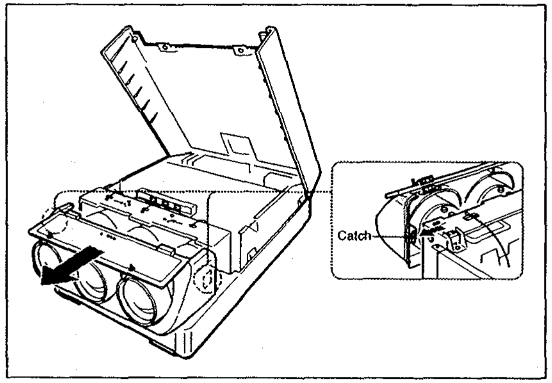
Removing the front and rear covers

Remove the front and rear covers with the upper cover open.

1 Unlock the two screws by using the supplied tool to remove the rear cover.



2 While pushing the catches inside the front cover outwards, slide to remove the front cover.



Modifying Parts

Changing the Polarity

The polarity of the projector is adjusted to use the projector for front projection on the floor.
When the projector is installed on the ceiling or used in rear projection, it is necessary to change the settings of the polarity switch and the polarity connectors.

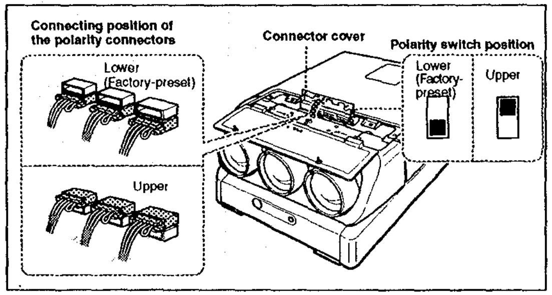
How to change the polarity

1 Turn off the power of the projector.

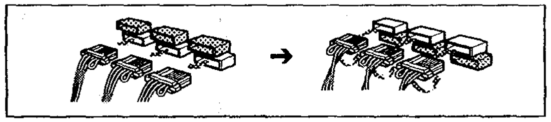
2 Open the upper cover.
For details, see "Opening the upper cover" on page 18 (EN).

3 Press to open the connector cover.

4 Check the polarity switch position and the connecting position of the polarity connectors.
For the installation methods of the projector and the settings of the switch and the connectors, see the diagram on the next page.



5 Change the switch position and/or the connecting position of the connectors, if necessary.
Polarity switch: Set to the upper or lower position.
Polarity connectors: Disconnect the three connectors, then turn them over (180°) and reinsert into the upper or lower receptacles.



6 Make sure to insert the connectors correctly and to set the switch to the correct position, then restore the connector cover and the upper cover.

Note
If the connector cover does not shut firmly, the power of the projector is not turned on.

Installation methods and settings of the polarity switch and the polarity connectors

Installation methods	Position of the switch	Connecting position of the connectors	On-screen display by default (See the next page.)
Front projection, floor	Lower	Lower	Correct
Front projection, ceiling	Upper	Upper	C
Rear projection, floor	Lower	Upper	A
Rear projection, ceiling	Upper	Lower	B
Others	Display letters on the screen so that you can determine which changes to make. *For on-screen display and necessary changes, see the next page.*		

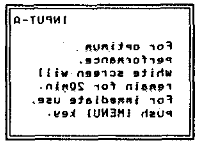
Note
When installing the projector, make sure to leave space of more than 30 cm (12 inches) between the wall or floor and the ventilation holes of the projector.

Modifying Parts

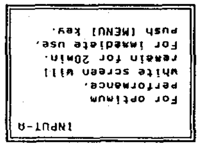
Polarity and on-screen display

When the projector is installed on the ceiling or used in rear projection without changing the polarity, one of the following on-screen displays appears. In this case, you have to change the polarity corresponding to the installation methods.

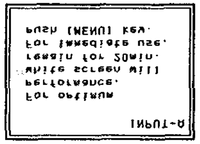
A The letters are backward.
Change the connecting position of the polarity connectors.



B The letters are upside down.
Change the polarity switch position.



C The letters are upside down and backward.
Change the polarity switch position and the connecting position of the polarity connectors.



Adjusting the CRT Conversion Angle

Adjust the CRT conversion angle so that the three CRT images converge exactly.

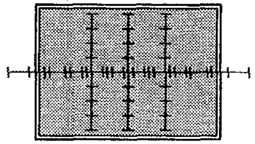
1 Open the upper cover.
For details, see "Opening the upper cover" on page 18 (EN).

2 Turn on the power of the projector.

3 Set the remote control to the serviceman adjustment mode.
For details, see "Preparation" on page 38 (EN).

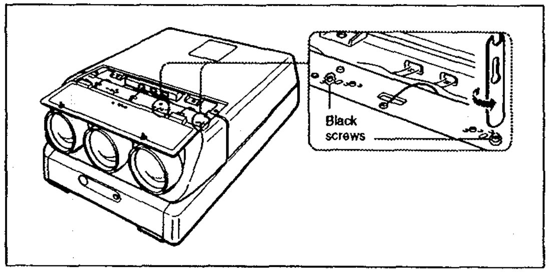
4 Reset the green, red and blue centering.
For details, see "Resetting the Data" on page 107 (EN).

5 Make sure that the on-screen display is shown as follows:
- The center of the green hatch pattern aligns with the horizontal center of the screen.
- The center of the red and blue hatch patterns align at even intervals from the green hatch pattern.



If the center of the green HATCH pattern does not align with the center of the screen, re-install the projector correctly.

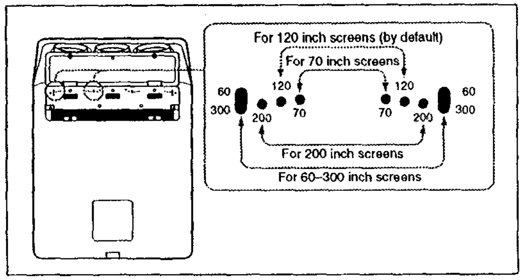
6 Loosen the two red CRT fixing screws (black) by using the supplied tool. Make sure not to remove the screws.



(continued)

Modifying Parts

7 Insert the two adjustment screws (gold) into the appropriate adjustment holes corresponding to the screen size.



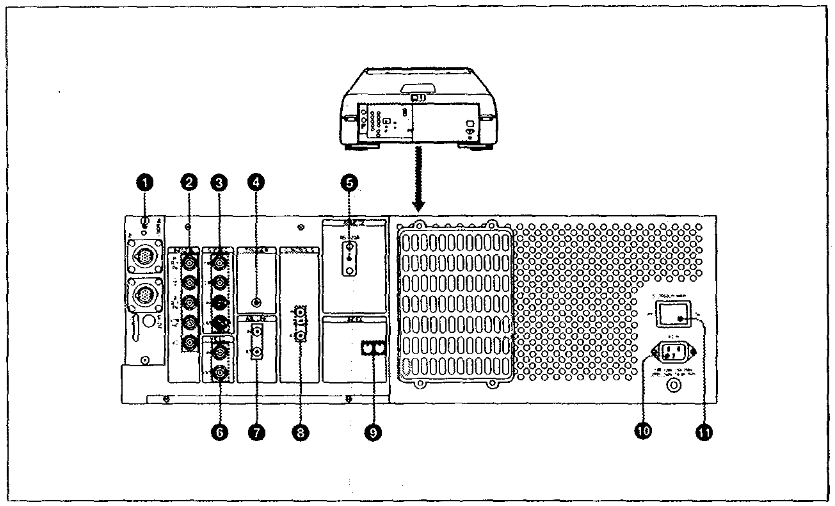
By default, the two adjustment screws are fixed to the two adjustment holes for 120 inch screens.
For 70 and 200 inch screens, remove the adjustment screws and insert them into the corresponding holes.
For screens other than 70, 120 and 200 inch screens, insert the screws into the elliptic holes for 60–300 inch screens.

8 For screens other than 70, 120 and 200 inch screens, move the red CRT right and left so that the vertical line of the red cross hatch pattern converges with the green pattern, then tighten the two adjustment screws (gold).

9 Tighten the two red CRT fixing screws (black).

10 Repeat steps **6** to **9** to loosen the two blue CRT fixing screws (black), adjust the blue CRT conversion angle and tighten the two adjustment screws (gold).

Location and Function of Connectors



❶ Signal interface board attachment part (INPUT B)
The IFB-40 Signal Interface Board is installed by default. Other optional signal interface boards can be attached to this section instead of the IFB-40.
Indicator: Lights in red when the input of the IFB-40 is selected.
REMOTE 1 IN connector (14-pin multi): When connecting two projectors, connect to the REMOTE 1 OUT connector on the IFB-40 installed to another projector.
REMOTE 1 OUT connector (14-pin multi): Connect to the REMOTE 1 IN connector on the IFB-40.
MODE selector: Turn the control switch of the MODE selector to the appropriate position according to the length of the cable connected to the REMOTE 1 OUT connector.

Cable length	up to 2 m	up to 10 m	up to 25 m	up to 50 m
Type of cable	SIC-M-1 CCQ-2BRS	SIC-M-5 CCQ-5BRS CCQ-10BRS	SIC-M-15 CCQ-25BRS SIC-M-25	SIC-M-50 CCQ-50BRS
Position	1	2	3	4

❷ INPUT A connectors (BNC type)
R/R-Y/P_R, G/Y, B/B-Y/P_B, SYNC/HD, VD connectors: Connect to the outputs of a computer or a video camera. According to the connected equipment, the RGB (R, G, B), component (R-Y, G, B-Y) or HDTV (P_R, Y, P_B) signal is selected.

❸ S VIDEO IN/OUT connectors (VPH-G70Q/G70QM only)
Y IN, C IN connectors (BNC type): Connects to the Y and C video outputs of the video equipment.
S VIDEO IN/OUT connectors (4-pin, mini-DIN type): Connects to the S video output or input connector of the video equipment.

- When the IFB-G70QMG is installed on the VPH-G70QMG.

Note
The S VIDEO IN connector is disconnected when a cable is connected to the Y/C IN connectors.

❹ TRIGGER connector (minijack)
When the projector is turned on, 5 V is output and when it is turned off, 0 V is output. However, the connector is not used as the power source since the power is not output.

Location and Function of Connectors

⑤ **RS-422A REMOTE connector (D-sub 9-pin)**
Used to expand the system connections using the RS-422A interface.
Before using the connector, loosen the two screws to remove the cap.

⑥ **VIDEO IN/OUT connectors**
VIDEO IN connector (BNC type): Connects to the composite video output of the video equipment.
VIDEO OUT connector (BNC type): Connects to the composite video input of a color monitor.

⑦ **ABL (Automatic Brightness Limiter) LINK IN/ OUT jacks (minijack)**
When connecting multiple projectors, connects the ABL LINK OUT jack to the ABL LINK IN jack on another projector. You can synchronize the brightness limiting point among the projectors, allowing to make the whole screen brightness uniform.

⑧ **CONTROL S jacks**
IN/PLUG IN POWER (5 V) jack (stereo minijack): Connects to the CONTROL S OUT jack of other Sony equipment. Also connects to the CONTROL S OUT jack of the supplied remote control with the supplied remote control cable (stereo cable) to be used as a wired remote control. In this case, this jack supplys 5 V to the remote control as power source.
OUT jack (stereo minijack): Connects to the CONTROL S IN jack of other Sony equipment.

Note
When using this jack, the remote control detector on the projector does not function.

⑨ **INDEX NO. switches**
When multiple projectors are connected, set the index number of each projector.

Note
If you set the index number to "00", the projector does not operate.

⑩ **AC IN socket**
Connect the supplied AC power cord.

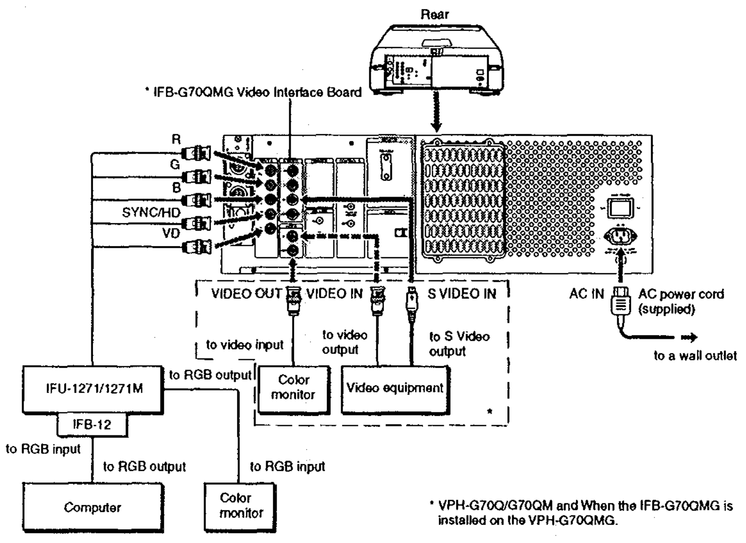
⑪ **MAIN POWER switch**

Connecting Directly to the Projector

You can expand the system connections by using the IFB-40 Signal Interface Board which is installed to the projector by default, or in combination shown in the examples below.

When multiple input sources are connected to the projector

Use the IFU-1271/1271M Signal Interface Unit.


Rear
* IFB-G70QMG Video Interface Board
R
G
B
SYNC/HD
VD
VIDEO OUT
VIDEO IN
S VIDEO IN
to video input
to video output
to S Video output
AC IN
AC power cord (supplied)
to a wall outlet
IFU-1271/1271M
IFB-12
to RGB output
Color monitor
Video equipment
to RGB input
to RGB output
to RGB input
Computer
Color monitor

* VPH-G70Q/G70QM and When the IFB-G70QMG is installed on the VPH-G70QMG.

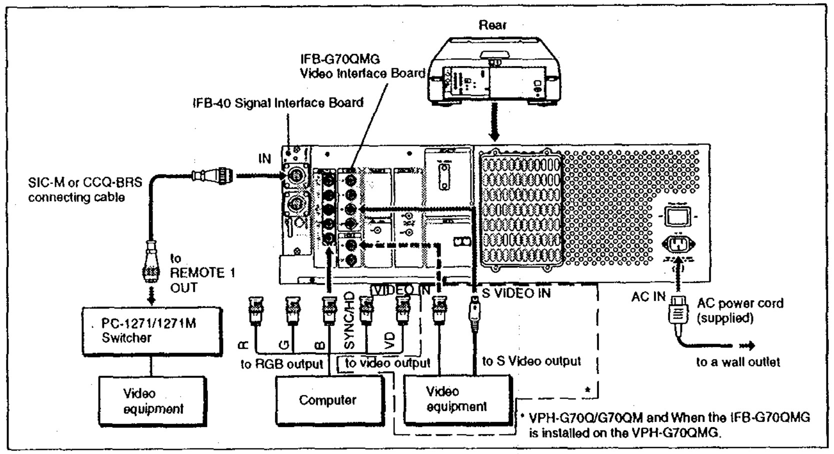
Setting up

- Set INPUT-A in the SET SETTING menu to RGB.
  For details, see "The SET SETTING Menu" on page 51 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu.
  (When the IFB-G70QMG is installed on the VPH-G70QMG.)
  For details, see "The INPUT SELECT Menu" on page 45 (EN).

Using the Signal Interface Switcher

When you connect the PC-1271/1271M Signal Interface Switcher (not supplied) to the IFB-40 Signal Interface Board (installed on the projector by default), you can connect easily various input sources.
You can select up to 16 inputs by pressing the SWITCHER/INDEX keys on the remote control or by setting SWITCHER in the INPUT SELECT menu.

When the switcher is connected to the projector using the SIC-M or CCQ-BRS connecting cable


Rear
IFB-G70QMG
Video Interface Board
IFB-40 Signal Interface Board
IN
SIC-M or CCQ-BRS connecting cable
to REMOTE 1 OUT
PC-1271/1271M Switcher
Video equipment
R
G
B
SYNC/HD
VD
VIDEO IN
S VIDEO IN
to RGB output
to video output
to S Video output
Computer
Video equipment
AC IN
AC power cord (supplied)
to a wall outlet

* VPH-G70Q/G70QM and When the IFB-G70QMG is installed on the VPH-G70QMG.

Choose the appropriate cable from the following table.

1 m	2 m	5 m	10 m	15 m	25 m	50 m
–	CCQ-2BRS	CCQ-5BRS	CCQ-10BRS	–	CCQ-25BRS	CCQ-50BRS
SIC-M-1	–	SIC-M-5	–	SIC-M-15	SIC-M-25	SIC-M-50

Notes

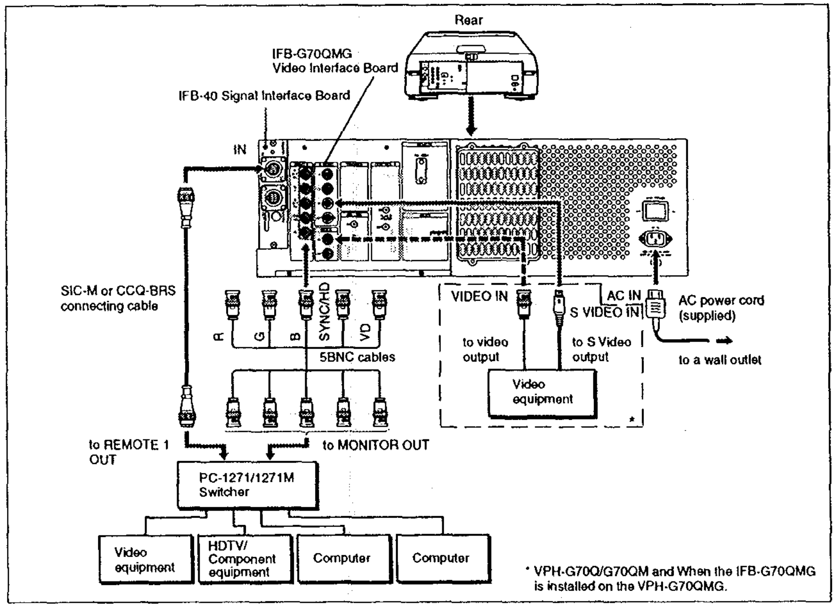
- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

Setting up

- Set INPUT-A in the SET SETTING menu to RGB.
  For details, see "The SET SETTING Menu" on page 51 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu. (When the IFB-G70QMG is installed on the VPH-G70QMG.)
  For details, see "The INPUT SELECT Menu" on page 45 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.

When the switcher is connected to the projector using both the SIC-M or CCQ-BRS connecting cable and the 5BNC cables (5BNC mode 1)

When you connect both the video and RGB signal input sources to the switcher, use the SIC-M or CCQ-BRS connecting cable and the BNC cables for connection between the projector and switcher.


Rear
IFB-G70QMG
Video Interface Board
IFB-40 Signal Interface Board
IN
SIC-M or CCQ-BRS connecting cable
R
G
B
SYNC/HD
VD
5BNC cables
VIDEO IN
to video output
S VIDEO IN
to S Video output
AC IN
AC power cord (supplied)
to a wall outlet
Video equipment
to REMOTE 1 OUT
to MONITOR OUT
PC-1271/1271M Switcher
Video equipment
HDTV/ Component equipment
Computer
Computer

* VPH-G70Q/G70QM and When the IFB-G70QMG is installed on the VPH-G70QMG.

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

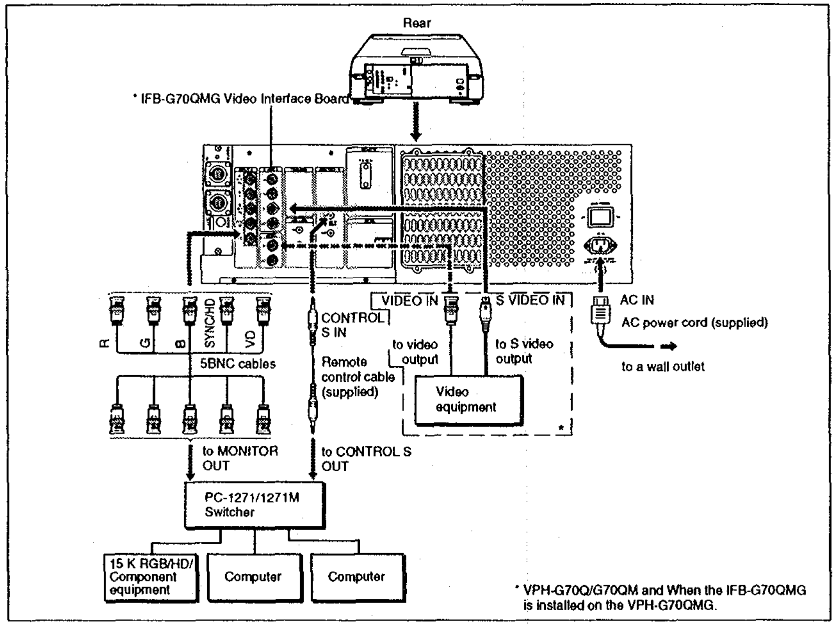
Setting up

- Set INPUT-A to RGB and 5BNC MODE to ON in the SET SETTING menu.
  For details, see "The SET SETTING Menu" on page 51 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu. (When the IFB-G70QMG is installed on the VPH-G70QMG.)
  For details, see "The INPUT SELECT Menu" on page 45 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.

Using the Signal Interface Switcher

When the switcher is connected to the projector using the 5BNC cables (5BNC mode 2)

When the switcher to be connected is more than 50 m away from the projector, or the SIC-M or CCQ-BRS cable cannot be used for the connection between the projector and switcher, connect the RGB signal sources to the switcher and the video signal sources to the projector.

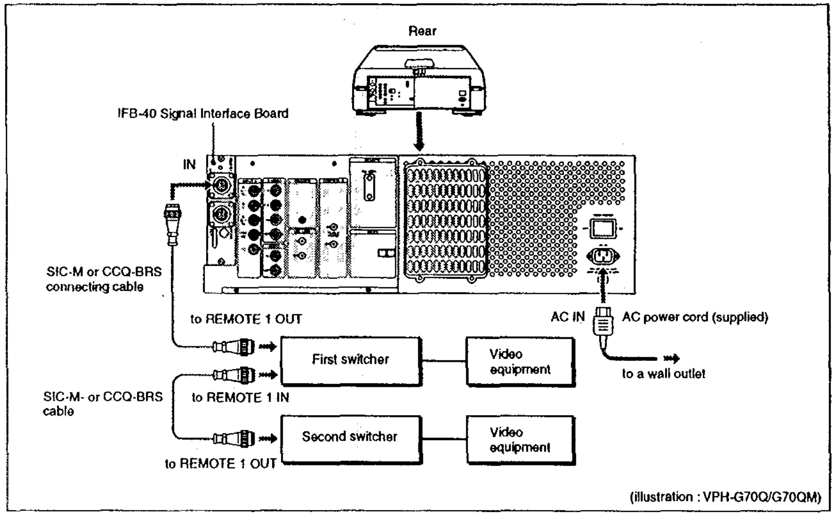

Rear
* IFB-G70QMG Video Interface Board
R
G
B
SYNC/HD
VD
5BNC cables
to MONITOR OUT
CONTROL S IN
Remote control cable (supplied)
to CONTROL S OUT
VIDEO IN
S VIDEO IN
to video output
to S video output
Video equipment
AC IN
AC power cord (supplied)
to a wall outlet
PC-1271/1271M Switcher
15 K RGB/HD/ Component equipment
Computer
Computer

* VPH-G70Q/G70QM and When the IFB-G70QMG is installed on the VPH-G70QMG.

Setting up

- Set INPUT-A to RGB and 5BNC MODE to ON in the SET SETTING menu.
  For details, see "The SET SETTING Menu" on page 51 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu. (When the IFB-G70QMG is installed on the VPH-G70QMG.)
  For details, see "The INPUT SELECT Menu" on page 45 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.
- When the HDTV signal is input to the switcher, set the output of the connected equipment or the IFB-1301 Signal Interface Board installed to the switcher to GBR OUT.
- When the component signal is input to the switcher, set the output of the connected equipment or the IFB-1200 Signal Interface Board installed to the switcher to RGB OUT.

When two signal interface switchers are connected


Rear
IFB-40 Signal Interface Board
IN
SIC-M or CCQ-BRS connecting cable
to REMOTE 1 OUT
First switcher
Video equipment
AC IN
AC power cord (supplied)
to a wall outlet
SIC-M- or CCQ-BRS cable
to REMOTE 1 IN
Second switcher
Video equipment
to REMOTE 1 OUT

(illustration : VPH-G70Q/G70QM)

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable between the projector and the switcher up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz.

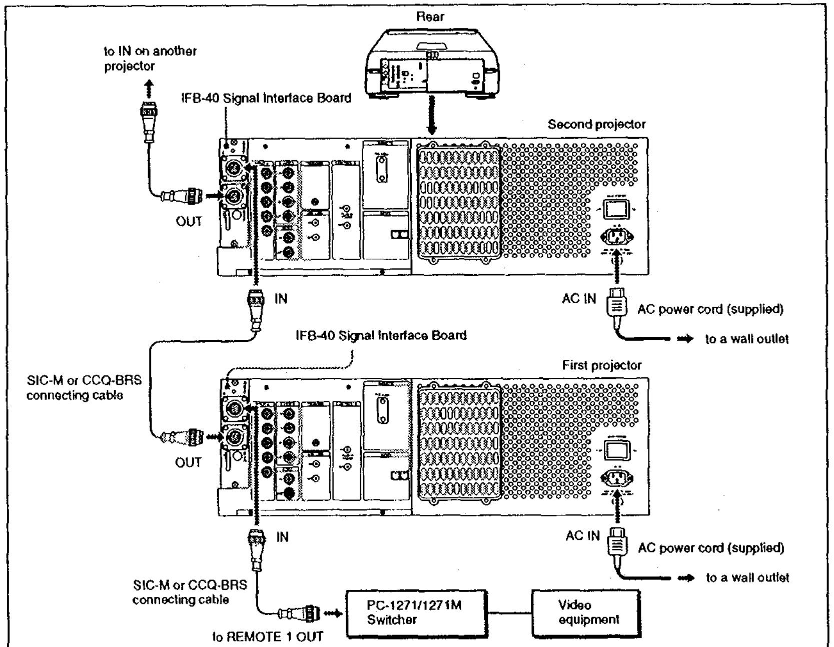
Setting up

- Set the SINGLE/SECOND/OTHER select switch on the first switcher to SINGLE.
- Set the SINGLE/SECOND/OTHER select switch on the second switcher to SECOND.

Connecting Multiple Projectors

When connecting multiple projectors, you can project the multi-screen picture.

When the projectors are connected using the SIC-M or CCQ-BRS cable


Rear
to IN on another projector
IFB-40 Signal Interface Board
Second projector
OUT
IN
AC IN
AC power cord (supplied)
to a wall outlet
IFB-40 Signal Interface Board
First projector
SIC-M or CCQ-BRS connecting cable
OUT
IN
AC IN
AC power cord (supplied)
to a wall outlet
SIC-M or CCQ-BRS connecting cable
to REMOTE 1 OUT
PC-1271/1271M Switcher
Video equipment

(illustration : VPH-G70Q/G70QM)

Notes

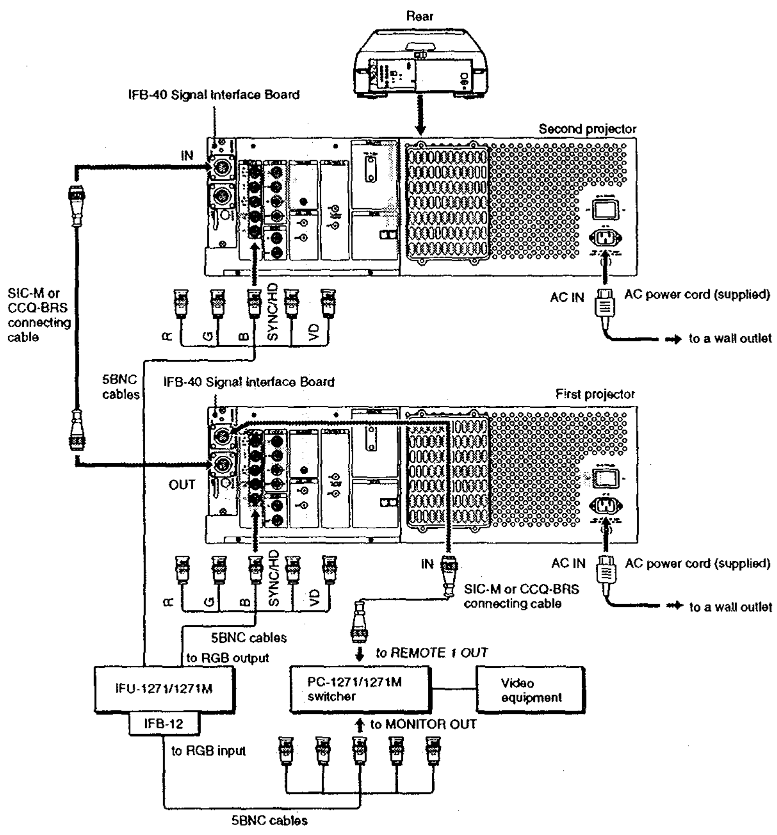
- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable between the projector and the switcher up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz.

Setting up

- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.
- To control the projectors using the index number, set the sequential number from 01 to 08 on each projector using the INDEX NO. switches on the rear panel.

When the projectors are connected using both the SIC-M or CCQ-BRS cable and the 5BNC cables

When you connect both the video and RGB signal input sources to the switcher, connect each projector to the switcher using both the SIC-M or CCQ-BRS connecting cable and the 5BNC cables.
Use the IFU-1271/1271M Signal Interface Unit.


Rear
IFB-40 Signal Interface Board
Second projector
IN
SIC-M or CCQ-BRS connecting cable
R
G
B
SYNC/HD
VD
AC IN
AC power cord (supplied)
to a wall outlet
5BNC cables
IFB-40 Signal Interface Board
First projector
OUT
R
G
B
SYNC/HD
VD
IN
SIC-M or CCQ-BRS connecting cable
AC IN
AC power cord (supplied)
to a wall outlet
5BNC cables
to RGB output
to REMOTE 1 OUT
IFU-1271/1271M
IFB-12
to RGB input
PC-1271/1271M switcher
to MONITOR OUT
Video equipment
5BNC cables

(illustration : VPH-G70Q/G70QM)

(continued)

Connecting Multiple Projectors

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable between the switcher and the first projector up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

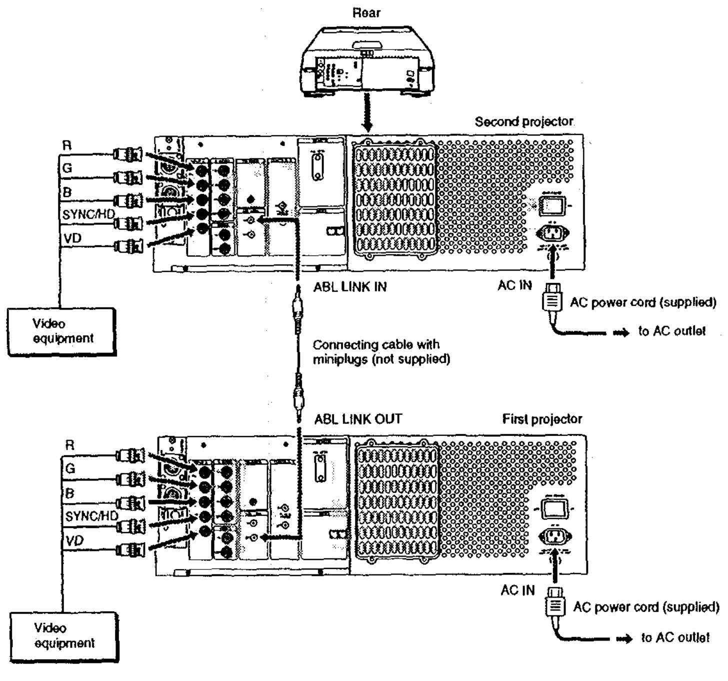
Setting up

- Set INPUT-A to RGB and 5BNC MODE to ON in the SET SETTING menu.
  For details, see "The SET SETTING Menu" on page 51 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.
- To control the projectors using the index number, set the sequential number from 01 to 08 on each projector using the INDEX NO. switches on the rear panel.
- Set the MODE selector on the IFB-40 installed to the first projector to the appropriate position according to the length of the SIC-M or CCQ-BRS cable between the first and second projectors.
  For details, see "Location and Function of Connectors" on page 25 (EN).

Using the Linked ABL Function

What is linked ABL function?

The ABL (Automatic Brightness Limiter) function is incorporated with the projector. The ABL function prevents CRT burn by controlling the brightness of the screen if it becomes too high.
If you connect the ABL LINK jacks of each projector when connecting multiple projectors to display a malti-screen, the ABL functions on all projectors once the ABL functions on any one projector. The linked ABL function allows the malti-screen's brightness uniform.


Rear
Second projector
R
G
B
SYNC/HD
VD
Video equipment
ABL LINK IN
AC IN
AC power cord (supplied)
to AC outlet
Connecting cable with miniplugs (not supplied)
ABL LINK OUT
First projector
R
G
B
SYNC/HD
VD
Video equipment
AC IN
AC power cord (supplied)
to AC outlet

(illustration : VPH-G70Q/G70QM)

Setting up

Set ABL LINK in the ABL LINK menu to ON.
For details, see "The ABL LINK Menu" on page 59 (EN).

Adjusting the ABL LINK

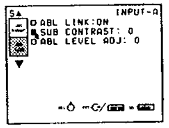
1 Set the remote control to the serviceman adjustment mode.
For details, see "Preparation" on page 38 (EN).

2 Set the CONTRAST levels of all projectors to the same level.

3 Adjust the brightness of each projector to make its black level uniform.

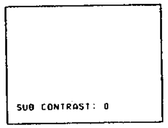
4 Input an external signal to display the 1/16 window pattern.

5 Display the ABL LINK menu, select SUB CONTRAST with the ↑ or ↓ key, then press the ENTER key.
For details, see "The ABL LINK Menu" on page 59 (EN).



ABL LINK:ON
SUB CONTRAST: 0
ABL LEVEL ADJ: 0

6 Press the ↑ or ↓ key to adjust the projector so that the brightness looks the same as that of the darkest projector, then press the ENTER key.



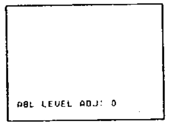
SUB CONTRAST: 0

7 Repeat steps **4** to **6** on each projector so that the brightness of all projectors looks the same.

8 Input an external signal to display the all white pattern.

9 Select ABL LEVEL ADJ in the ABL LINK menu, then press the ENTER key.

10 Press the ↑ or ↓ key to adjust the projector so that the brightness looks the same as that of the darkest projector, then press the ENTER key.



ABL LEVEL ADJ: 0

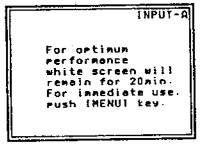
11 Repeat steps **8** to **10** on each projector so that the brightness of all projectors looks the same.

12 Set ABL LINK in the ABL LINK menu to ON, then press the ENTER key.
If the ABL functions on any one projector, the brightness of all projectors becomes uniform.

Adjustment Procedures

Warm-up before adjustment

Before adjusting the registration, make sure to turn on the projector and allow it to warm up for 20 minutes.
The projector is designed with a warm-up period of about 20 minutes after turning on the power. During this period, it displays a white screen with the message shown below. 35 seconds after the warm-up starts, the message will disappear temporarily and will appear subsequently for 5 seconds every 30 seconds.



For optimum performance white screen will remain for 20min. For immediate use. push [MENU] key.

Press the MENU key to cancel the warm-up, if you wish to see the picture immediately.
You may also set the projector for a shorter, longer or no warm-up period.
For details, see "Changing the Initialization Period" on page 121 (EN).

Adjustment procedures

Perform each adjustment with the supplied remote control before connecting to the external equipment. After the adjustment, save the data. Next, perform fine adjustment for each input signal connected to the projector.

Follow the procedure below.

① Prepare the remote control. *(page 38 (EN))*

↓

② Set the remote control to the serviceman adjustment mode. *(page 38 (EN))*

↓

③ Adjust roughly without input signal. *(pages 64 (EN) to 94 (EN))*

↓

④ Save the adjustment data as the standard data. *(page 95 (EN))*

↓

⑤ Adjust fine for each input signal. *(pages 96 (EN) to 104 (EN))*

↓

⑥ Activate the memory protection of the remote control. *(page 109 (EN))*

↓

⑦ Adjust the picture. *(page 110 (EN))*

For Remote Control

All adjustments, except focusing the lens and adjusting flapping of the lens, can be made with the supplied remote control.
Normally, the adjustment keys on the remote control are inoperable to prevent accidental adjustments. Cancel the protection before adjusting.
Since the remote control uses infrared, you can use it without a wire. However, in order to correctly control the projector, you should connect the remote control to the projector with the supplied remote control cable.

Preparation

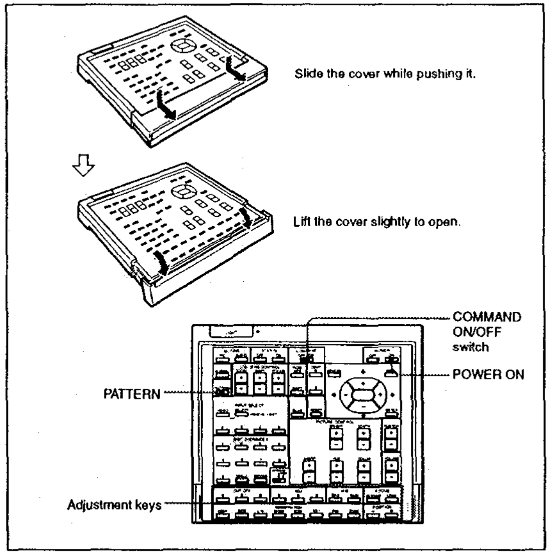
1 Insert three of the supplied R6 (size AA) batteries with the polarities lined up correctly.
For details, see "Battery installation" on page 39 (EN).

2 Connect the remote control to the projector.
See "Connecting the remote control to the projector" on page 40 (EN).

3 Make sure that the COMMAND ON/OFF switch on the remote control is set to ON.

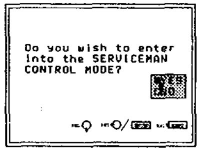
4 Turn on the MAIN POWER switch on the projector, and then press the POWER ON key on the remote control.

5 Open the panel cover of the adjustment keys.


Slide the cover while pushing it.
Lift the cover slightly to open.

6 Press the keys in the following order:
ENTER → ENTER → ↑ → ↓ → ENTER

The following display appears.


Do you wish to enter into the SERVICEMAN CONTROL MODE?

7 Press the ↑ or ↓ key to select YES, then press the ENTER key.

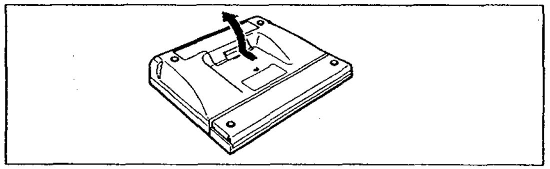
The protection on the adjustment keys is removed and the serviceman adjustment keys are enabled (serviceman adjustment mode).
After the adjustment, reactivate the protection.
For details, see "Protecting the Setting" on page 109 (EN).

Notes for wireless remote control operation

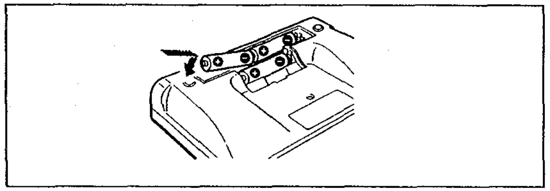
- Be sure that there are no obstructions between the remote control and the projector.
- Operating range is limited. The shorter the distance between the remote control and the projector, the wider the angle in which the remote control can control the projector.

Battery installation

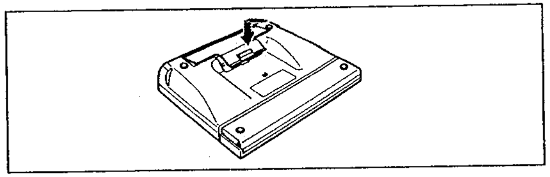
1 Push to open the lid.



2 Install three size AA (R6) batteries (supplied) with the correct polarity.



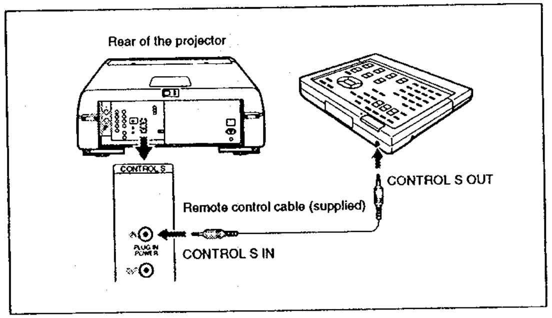
3 Replace the lid.



Notes on batteries

- If the projector does not operate properly, the batteries might be worn out. Replace all three of them with new ones.
- The life of the batteries depends on frequency of usage and how often you use the LIGHT button. If they are worn out quickly, replace them with new alkaline batteries.
- To avoid damage from possible battery leakage, remove the batteries when the remote control will not be used for a long time.

Connecting the remote control to the projector


Rear of the projector
CONTROL S
PLUG IN POWER
Remote control cable (supplied)
CONTROL S IN
CONTROL S OUT

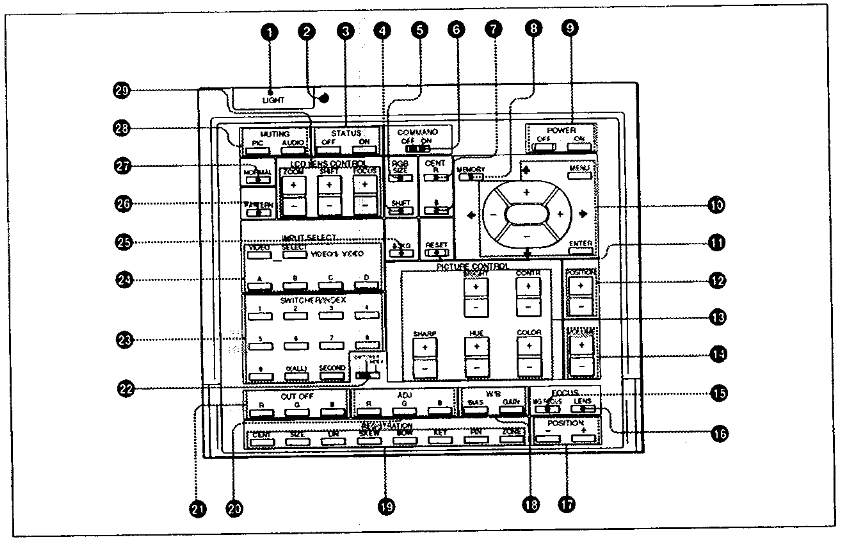
Note

When you connect the remote control to the projector as mentioned above, the remote control detector of the projector does not function. For wireless operation, be sure to disconnect both plugs from the projector and the remote control.

Keys on the Remote Control

Notes

- The VOLUME +/– ⑭, FOCUS LENS ⑯, INPUT SELECT C and D ㉔, AUDIO MUTING ㉘ and LCD LENS CONTROL ㉙ keys do not function with this projector.
- The MG FOCUS ⑮, W/B BIAS/GAIN ⑱, REGISTRATION ⑲, ADJ R/G/B ⑳ and CUT OFF R/G/B ㉑ keys function only in serviceman adjustment mode.


①
②
③
④
⑤
⑥
⑦
⑧
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⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
㉕
㉖
㉗
㉘
㉙
LIGHT
MUTING
PIC
AUDIO
STATUS
OFF
ON
COMMAND
OFF ON
POWER
OFF
ON
LCD LENS CONTROL
ZOOM
SHIFT
FOCUS
NORMAL
PATTERN
RGB SIZE
CENT
SHIFT
MEMORY
MENU
ENTER
RESET
INPUT SELECT
VIDEO
VIDEO/S VIDEO
A
B
C
D
SWITCHER/INDEX
1
2
3
4
5
6
7
8
9(ALL)
SECOND
PICTURE CONTROL
BRIGHT
CONTR
SHARP
HUE
COLOR
POSITION
CUT OFF
R
G
B
ADJ
W/B
BIAS
GAIN
FOCUS
MG
LENS
REGISTRATION
CENT
SIZE
LIN
SKEW
BOW
KEY
PIN
ZONE

① LIGHT button

Illuminates the key indicators when the COMMAND switch ⑥ is set to ON. If the COMMAND switch is set to OFF, only the COMMAND switch is illuminated.

The key indicators turn off if you press the LIGHT button again.

If you do not press any key for more than 30 seconds, the indicators also turn off automatically.

When the remote control is connected to the CONTROL S IN/PLUG IN POWER jack of the projector via the remote control cable, the power is supplied to the remote control from the projector.

② Transmission indicator

Lights each time you press a key. If it does not light, replace the batteries with new ones.

③ STATUS ON/OFF key

Press OFF to eliminate the on-s creen display.

Press ON to restore the on-screen display.

Note

The menus and warning messages appear even if the OFF key is pressed.

④ RGB SHIFT key
Enters the shift adjustment mode for the input signal. Next adjust the position of the picture using the four arrow keys. The picture shifts in the direction of the arrow on the pressed key.
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑤ RGB SIZE key
Enters the size adjustment mode for the input signal. Next adjust the size of the picture using the four arrow keys.
← : to reduce horizontal size
→ : to expand horizontal size
↑ : to expand vertical size
↓ : to reduce vertical size
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑥ COMMAND ON/OFF switch
No keys on the remote control except the LIGHT key ① function when this switch is set to OFF. This saves battery power.

⑦ CENT R/B keys
Enter the centering adjustment mode of the red and blue.
R: Press to enter the red centering adjustment mode.
B: Press to enter the blue centering adjustment mode.
Perform the centering adjustment using the four arrow keys.

⑧ MEMORY key
Stores various adjusted data into memory.

⑨ POWER ON/OFF keys
Turn on and off the projector when the MAIN POWER switch on the projector is set to ON.

⑩ Menu operation keys
Used for various adjustment functions and for menu operations.
MENU: Displays the main menu. Press it again to turn off the menu.
Arrow keys: Adjusts the value or selects the item in the menu.
ENTER: Stores the settings in the menu.

⑪ RESET key
Resets the adjusted levels to the factory preset, serviceman adjusted or initial setting levels.

⑫ POSITION +/– keys
Select the position to be adjusted on the screen in focus, registration or blanking adjustment mode.
Also, set V SHIFT to WIDE or NARROW in RGB input signal's SHIFT adjustment mode.

⑬ PICTURE CONTROL keys
Adjust the picture conditions: CONTR (contrast), BRIGHT (brightness), COLOR, HUE and SHARP (sharpness).

⑭ VOLUME +/– keys
These keys do not function with this projector.

⑮ MG FOCUS key
Enters the magnetic focus, AQP or DQP adjustment mode.
For details, see "Adjusting the green magnetic focus and AQP/DQP" on page 68 (EN).

⑯ FOCUS LENS key
This key does not function with this projector.

⑰ POSITION +/– keys
Function the same as the POSITION +/– ⑫ keys.
Select the position to be adjusted on the screen in focus, registration or blanking adjustment mode.

⑱ W/B (white balance) keys
Enter the white balance adjustment mode.
BIAS: Adjusts cut off.
GAIN: Adjusts drive.

⑲ REGISTRATION keys CENT/SIZE/LIN/SKEW/BOW/KEY/PIN/ZONE
Select the desired item for registration adjustment with each key, then adjust the item with the arrow keys.
For details, see "Keys for Adjusting" on page 75 (EN).

⑳ ADJ R/G/B (adjust red/green/blue) keys
Select color to be adjusted when adjusting the focus, registration and white balance adjustments.
R: Red signal
G: Green signal
B: Blue signal

㉑ CUT OFF keys
Select the color to be turned off when adjusting the registration. Press again to turn on the color.
R: Red signal
G: Green signal
B: Blue signal

㉒ SWITCHER/INDEX select switch
Selects the function of the SWITCHER/INDEX keys.
Set to SWITCHER to select the input from the PC-1271/1271M Signal Interface Switcher.
Set to INDEX to assign the index number of each projector when multiple projectors are used.

㉓ SWITCHER/INDEX keys
When the SWITCHER/INDEX select switch is set to SWITCHER
When the PC-1271/1271M switcher (not supplied) is connected to the projector, press a number key (1 – 8) to select the input from the switcher. The number key 9 does not function.
To select the input from the second switcher (when the SINGLE/SECOND/OTHER switch on the switcher is set to SECOND), press a number key between 1 and 8 within two seconds after pressing the SECOND key.
When the SWITCHER/INDEX select switch is set to INDEX
When multiple projectors are connected, select the index number, which is set with the INDEX NO. switch on the rear panel, of the projector to be adjusted. Press a number key (1 – 9) to designate the index number, then press the ENTER key. When adjusting all the projectors simultaneously, press the 0 (ALL) key, then the ENTER key.

㉔ INPUT SELECT keys
Select the input signal.
VIDEO: The signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors
SELECT VIDEO/S VIDEO: Selects the signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors after pressing the VIDEO key.
A: The RGB, component or HDTV signal input from the INPUT A connectors of the projector
B: The signal input from the INPUT B section when the optional interface board other than the IFB-40 is installed
C, D: These keys do not function with this projector.

Note

To switch the input signal from the INPUT A or INPUT B to the S VIDEO IN (or Y/C IN) connectors, first press the VIDEO key, then press the SELECT VIDEO/S VIDEO key.

㉕ BLKG (blanking) key
Enters the blanking adjustment mode.
You can adjust the blanking with the four arrow keys.
For details, see "Blanking Adjustment" on pages 99 (EN) and 102 (EN).

㉖ PATTERN key
Displays the internal test patterns of the projector.
Each press of the key advances the test pattern sequentially.
In the focus, registration or white balance adjustment mode, only the test patterns suitable for the adjustment will be displayed.
For details, see "Test Patterns" on page 61 (EN).

㉗ NORMAL key
Erases the test pattern or cancels the various adjustment modes.

㉘ MUTING keys
PIC (Picture): Cuts off the picture. To restore the picture, press the key again.
AUDIO: This key does not funcion with this projector.

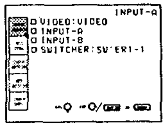
㉙ LCD LENS CONTROL keys
These keys do not function with this projector.

Using the MENU

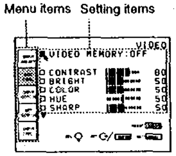
The projector is equipped with an on-screen menu for making various adjustments and settings.
The language used in the menu can be changed to French, German, Italian, Spanish, Japanese or Chinese.
For details, see "LANGUAGE" on page 52 (EN).

Basic Menu Operation

1 Press the MENU key.
The menu display appears.
The menu presently selected is highlighted in blue.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

2 Use the ♦ or ♦ keys to select a menu, then press the ➧ key or the ENTER key.
The selected menu appears.
The setting items that are indicated in white cannnot be selected.

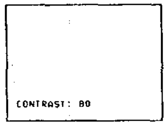

Menu items
Setting items
VIDEO MEMORY:OFF
VIDEO
CONTRAST
BRIGHT
COLOR
HUE
SHARP
80
50
50
50
50

3 Use the ♦ or ♦ keys to select a setting item, then press the ➧ key or the ENTER key.
The adjustment menu or the setting menu (pop-up menu) appears.

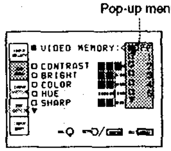
If there are two or more pages for a menu
The ▼ indication appears below the bottom item.
To go to the next page, move the cursor to the bottom item with the ♦ key, then press the ♦ key.
To go back to the previous page, move the cursor to the top item with the ♦ key, then press the ♦ key.

4 Make adjustment or setting on the menu.

To change the adjustment level
To increase the level, press the ♦ or ➧ key.
To decrease the level, press the ♦ or ➧ key.
Then press the ENTER key to store the level. The original screen is restored.


CONTRAST: 80

To select an item
Use the ♦ or ♦ key to select an item in a pop-up menu, then press the ➧ key or the ENTER key. The selected setting is stored and the pop-up menu disappears.


Pop-up menu
VIDEO MEMORY:
CONTRAST
BRIGHT
COLOR
HUE
SHARP

For details on setting individual items, see the relevant menu pages.

To clear the menu display

Press the MENU key.
The menu display also disappears automatically if no key is pressed for about one minute.

To reset the settings that have been adjusted

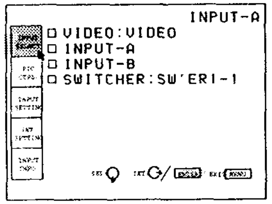
Press the RESET key. "Reset complete!" appears on the screen and the settings appearing on the screen will be reset to the factory preset, serviceman adjustment and initial setting levels.

Memory of the settings

The settings in the menus are automatically stored in the projector memory. You can also store the settings by pressing the MEMORY key.

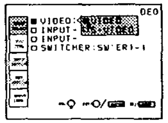
The INPUT SELECT Menu

The INPUT SELECT menu is used for selecting the input signal.
Items that can be selected are highlighted in green.
You cannot select the items indicated in white.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

VIDEO

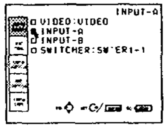
Selects signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors.


VIDEO:
VIDEO
S-VIDEO
INPUT-
INPUT-
SWITCHER:SW'ER1-1

Select VIDEO or S VIDEO in the pop-up menu.

INPUT-A

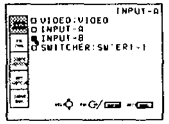
Selects signal input from the INPUT A connectors.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

Notes
- When the INPUT A connectors are connected to the PC-1271/1271M Switcher with 5BNC cables, INPUT-A cannot be selected.
- If the setting of INPUT-A in the SET SETTING menu is incorrect, the picture may be distorted.
For details, see page 51 (EN).

INPUT-B

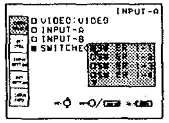
Selects signal input from the connectors on the optional signal interface board installed to the INPUT B section.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

Notes
- When the PC-1271/1271M Signal Interface Switcher is connected to the projector via the IFB-40 Signal Interface Board installed to the INPUT B section, INPUT-B cannot be selected.
- If the setting of INPUT-B in the SET SETTING menu is incorrect, the pictue may be distorted.
For details, see page 51 (EN).

SWITCHER

When the PC-1271/1271M Signal Interface Switcher is connected to the projector, selects signal input from the switcher.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER

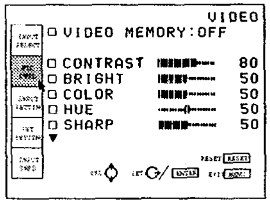
You can select SW'ER1-1 to SW'ER2-8 in the pop-up menu. They are always displayed in green even when no signal is input.

Note
SWITCHER can be selected only when the IFB-40 Signal Interface Board is installed to the INPUT B section, or when 5BNC MODE in the SET SETTING menu is set to ON.

The PIC CTRL (Picture Control) Menu

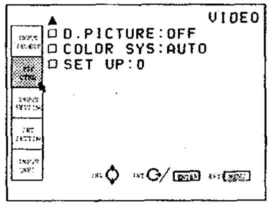
The PIC CTRL menu is used for adjusting the picture. Items that can be adjusted are highlighted in green. You cannot select the items indicated in white.

Page 1



VIDEO
VIDEO MEMORY:OFF
CONTRAST 80
BRIGHT 50
COLOR 50
HUE 50
SHARP 50

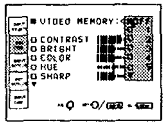
Page 2



VIDEO
D.PICTURE:OFF
COLOR SYS:AUTO
SET UP:0

VIDEO MEMORY

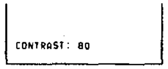
Selects a memory number of the adjusted picture levels.



Select a number from 1 to 10 in the pop-up menu, then the picture levels that have been adjusted will be stored in the number of the projector's memory.
If you want to use the data at the factory preset levels, select OFF.
The items to be stored in the VIDEO MEMORY are shown in the table of the memory architecture under "Input memory" (except for the items, "clamp position" and "registration"). (*page 106 (EN)*)

CONTRAST

Adjusts the picture contrast.

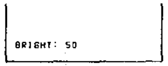


CONTRAST: 80

The higher the setting, the greater the contrast.
The lower the setting, the lower the contrast.

BRIGHT (brightness)

Adjusts the picture brightness.

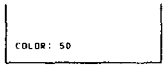


BRIGHT: 50

The higher the setting, the brighter the picture.
The lower the setting, the darker the picture.

COLOR

Adjusts color intensity.

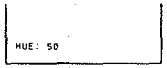


COLOR: 50

The higher the setting, the greater the intensity.
The lower the setting, the lower the intensity.

HUE

Adjusts skin tones.

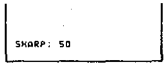


HUE: 50

At high settings, the picture becomes greenish.
At low settings, the picture becomes purplish.

SHARP (sharpness)

Adjusts the picture sharpness.

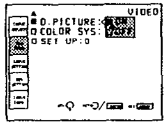


SHARP: 50

The higher the setting, the sharper the picture.
The lower the setting, the softer the picture.

D. (Dynamic) PICTURE

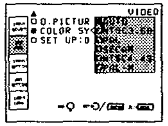
Emphasizes the black of the composite video, S video (Y/C) or component signal.



ON: Emphasizes the black to produce a bolder "dynamic" picture.
OFF: Reproduces the dark portions of the picture accurately, in accordance with the source signal.

COLOR SYS (System)

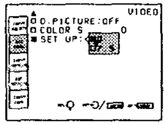
Selects the color system of the composite video or S video (Y/C) signal.



Normally, set to AUTO.
If the picture is distorted or colorless, select the color system according to the input signal.

SET UP

Changes the set up level (standard black level) to 0 IRE or 7.5 IRE according to the NTSC source signal.



0 IRE: Normally, set to this position.
7.5 IRE: Set to this position when the black color is too light.

Input signals and adjustable/setting items

Item	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
CONTRAST	Y	Y	Y	Y
BRIGHT	Y	Y	Y	Y
COLOR	Y	Y	Y	N
HUE	Y ($\text{NTSC}_{3.58}$/ $\text{NTSC}_{4.43}$ system only)	N	Y	N
SHARP	Y	Y	Y	N
D. PICTURE	Y	Y	N	N
COLOR SYS	Y	N	N	N
SET UP	Y ($\text{NTSC}_{3.58}$/ $\text{NTSC}_{4.43}$ system only)	N	N	N

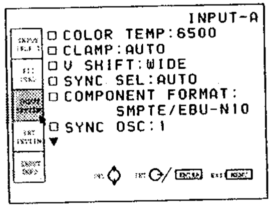
Y: Adjustable/can be set
N: Not adjustable/cannot be set

Using the MENU

The INPUT SETTING Menu

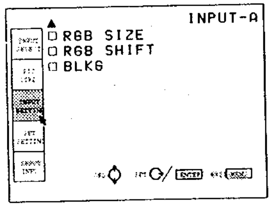
The INPUT SETTING menu is used to adjust the input signal.
Items that can be adjusted are displayed in green.
You cannot select the items indicated in white.

Page 1



```
                    INPUT-A
☐ COLOR TEMP:6500
☐ CLAMP:AUTO
☐ V SHIFT:WIDE
☐ SYNC SEL:AUTO
☐ COMPONENT FORMAT:
        SMPTE/EBU-N10
☐ SYNC OSC:1
▼
```

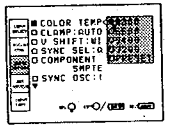
Page 2



```
                    INPUT-A
▲
☐ RGB SIZE
☐ RGB SHIFT
☐ BLKG
```

COLOR TEMP (Temperature)

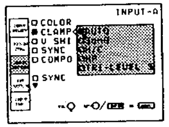
Selects the appropriate color temperature according to your application and the input source signal.



If you wish to make the color of a particular input signal uniform to that of a color monitor, select PRESET, then adjust the white balance.
For details, see "Adjusting the White Balance" on page 103 (EN).

CLAMP

Corrects the luminance of the input picture.



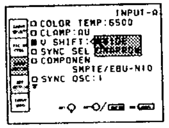
CLAMP is used as a standard for setting the black level of a picture correctly. The standard position of the clamp depends on the kind of sync signal being used. Normally, the projector CPU judges the signal and sets the position automatically. However, the CPU can misjudge the signal because of noise. If the luminance of the picture seems to be incorrect, the clamp position may need to be changed.

AUTO: Automatic setting mode. Normally set to this position.
SonG: Set to this position if the black seems too light or greenish.
H/C: Set to this position if the picture is too dark or luminance is unstable.
HP: If the luminance is still incorrect after changing to the SonG or H/C position, set to this position and perform the H-SHIFT adjustment.
TRI-LEVEL S: Set to this position if the picture is dark when using the tri-level sync.

Note
If the luminance is still incorrect after changing the clamp setting, check the input signal and the connections.

V (Vertical) SHIFT

Sets the adjustable range of the vertical shift of the input signal.

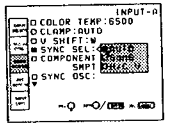


WIDE: Normally, set to this position (factory preset).
NARROW: When some signal such as a superimposed signal with unstable vertical sync. signal is input, the picture may be distorted vertically. In this case, set to this position. Adjustable range in the lower direction will become narrow.

Note
When the video, S video or component signal is input, V SHIFT is fixed to NARROW.

SYNC SEL (select)

Selects the sync signal.



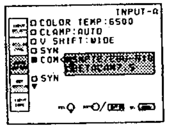
AUTO: Automatic setting mode. Normally set to this position.
SonG: Set to this position if you project the picture using the sync on G signal.
H/C V: Set to this position if you project the picture using the external sync signal.

When an HDTV signal is input
You can select the items below instead of the above items.

INT: Set to this position when using the internal sync signal.
EXT (C): Set to this position when using the external composite sync signal.
EXT (HV): Set to this position when using the external horizontal/vertical sync signal.

COMPONENT FORMAT

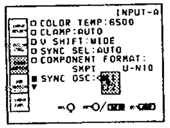
Selects the format of the component input signal.



SMPTE/EBU-N10: Set to this position if the input signal is the SMPTE or EBU-N10 format component signal.
BETACAM7.5: Set to this position if the input signal is the Betacam format component signal.

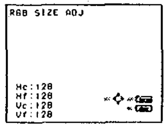
SYNC OSC (oscillation)

Normally, set to 1. When synchronization is distorted according to the type of the input signal, set to 2.



RGB SIZE

Adjusts the picture size of the input signal.

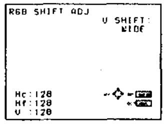

RGB SIZE ADJ
Hc : 128
Hf : 128
Vc : 128
Vf : 128

Use the ◆ or ➡ key to adjust the horizontal size.
Use the ⬆ or ⬇ key to adjust the vertical size.

Hc and Hf show the size adjustment levels for the horizontal direction and Vc and Vf show those for the vertical direction. The higher the setting level, the greater the picture size.

RGB SHIFT

Adjusts the picture position of the input signal.

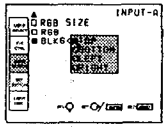

RGB SHIFT ADJ
V SHIFT:
WIDE
Hc : 128
Hf : 128
V : 128

Use the ⬅ or ➡ key to adjust the horizontal position.
Use the ⬆ or ⬇ key to adjust the vertical position.

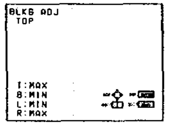
Hc and Hf show the shift adjustment levels for the horizontal direction and V shows the level for the vertical direction.

BLKG (Blanking)

Cuts off the excess parts if the displayed picture is larger than the screen.


INPUT-A
RGB SIZE
RGB
BLKG
TOP
BOTTOM
LEFT
RIGHT

Select the part to be adjusted among TOP, BOTTOM, LEFT and RIGHT, then press the ➡ key or the ENTER key to display the blanking adjustment screen.


BLKG ADJ
TOP
T : MAX
B : MIN
L : MIN
R : MAX

Use the ⬆ or ⬇ key to adjust the TOP and BOTTOM parts.
Use the ⬅ or ➡ key to adjust the LEFT and RIGHT parts.

Input signals and adjustable/setting items

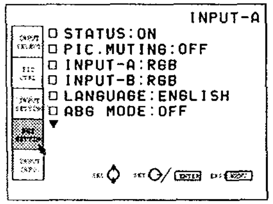
Items	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
COLOR TEMP	Y	Y	Y	Y
CLAMP	N	N	Y	Y
V SHIFT	N	N	Y	Y
SYNC SEL	N	N	Y	Y
COMPONENT FORMAT	N	Y	N	N
SYNC OSC	Y	Y	Y	Y
RGB SIZE	Y	Y	Y	Y
RGB SHIFT	Y	Y	Y	Y
BLKG	Y	Y	Y	Y

Y: Adjustable/can be set
N: Not adjustable/cannot be set

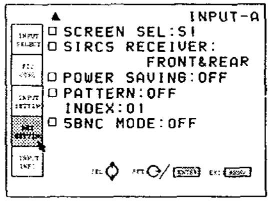
The SET SETTING Menu

The SET SETTING menu is used for changing the default settings of the projector.
Items that can be adjusted are highlighted in green.
You cannot select the items indicated in white.

Page 1

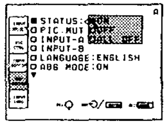

INPUT-A
□ STATUS:ON
□ PIC.MUTING:OFF
□ INPUT-A:RGB
□ INPUT-B:RGB
□ LANGUAGE:ENGLISH
□ ABG MODE:OFF

Page 2


INPUT-A
□ SCREEN SEL:SI
□ SIRCS RECEIVER:
FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
INDEX:01
□ 5BNC MODE:OFF

STATUS

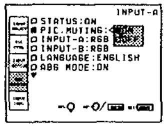
Selects the on-screen display mode.


A
STATUS:
ON
OFF
ALL OFF
PIC.MUT
INPUT-A
INPUT-B
LANGUAGE:ENGLISH
ABG MODE:ON

ON: Shows all of the on-screen displays.
OFF: Turns off the on-screen displays except for "NO INPUT," "PIC MUTING," warning messages and menu displays.
ALL OFF: Turns off all of the on-screen displays except for warning messages and menu displays.

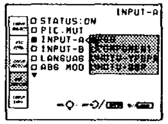
PIC. (Picture) MUTING

Set to ON to cut off the picture.
When set to ON, "PIC MUTING" appears on the screen.


INPUT-A
STATUS:ON
PIC.MUTING:
ON
OFF
INPUT-A:RGB
INPUT-B:RGB
LANGUAGE:ENGLISH
ABG MODE:ON

INPUT A

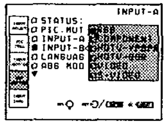
Selects the signal input from the INPUT A connectors.


INPUT-A
STATUS:ON
PIC.MUT
INPUT-A
INPUT-B
LANGUAG
ABG MOD
RGB
COMPONENT
HDTV-YPBPR
HDTV-GBR

RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YPBPR) signal.
HDTV-GBR: Inputs the HDTV(GBR) signal.

INPUT B

Selects the signal input from the IFB-12 Signal Interface Board (not supplied) installed to the INPUT B section.


INPUT-A
STATUS:
PIC.MUT
INPUT-A
INPUT-B
LANGUAG
ABG MOD
RGB
COMPONENT
HDTV-YPBPR
HDTV-GBR
VIDEO
S-VIDEO

RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YPBPR) signal.
HDTV-GBR: Inputs the HDTV(GBR) signal.
VIDEO: Inputs the composite video signal.
S-VIDEO: Inputs the S video signal.

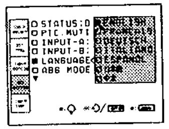
Note

When a signal interface board other than the IFB-12 is installed, the menu items cannot be selected.

Using the MENU

LANGUAGE

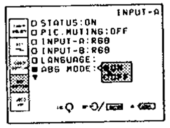
Selects the language used in the on-screen displays.


STATUS:O
PIC.MUTI
INPUT-A:
INPUT-B:
LANGUAGE
ABG MODE
ENGLISH
FRANÇAIS
DEUTSCH
ITALIANO
ESPAÑOL

Available languages are: English, French, German, Italian, Spanish, Japanese and Chinese.

ABG (Automatic Background) MODE

Normally, set to ON (factory setting). Cutoff luminance will be set to a certain level. Set to OFF if you want to erase the horizontal luminescent line for cutoff level detection that may appear at the upper part of the picture.

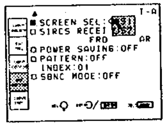

INPUT-A
STATUS:ON
PIC.MUTING:OFF
INPUT-A:RGB
INPUT-B:RGB
LANGUAGE:
ABG MODE:
ON
OFF

Note

When ABG MODE is set to OFF, the black level of the white balance may change.

SCREEN SEL (Select)

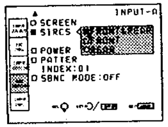
Selects the screen to be used.


SCREEN SEL:
SIRCS RECEI
POWER SAVING:OFF
PATTERN:OFF
INDEX:01
5BNC MODE:OFF
S1
S2

S1: Bead screen
S2: Mat screen

SIRCS RECEIVER

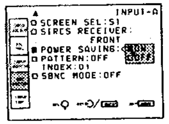
Selects the remote control detectors on the front and rear of the projector, if the wireless remote control does not operate correctly due to the influence of a fluorescent lamp, etc.


INPUT-A
SCREEN
SIRCS
POWER
PATTER
INDEX:01
5BNC MODE:OFF
FRONT&REAR
FRONT
REAR

FRONT & REAR: Activates both the front and rear detectors.
FRONT: Activates the front detector only.
REAR: Activates the rear detector only.

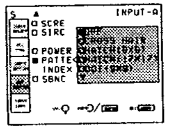
POWER SAVING

When set to ON, the projector goes into the power saving mode if no signal is input for 10 minutes. The screen enters cut-off mode. The power saving mode is canceled when a signal is input or whenever any key is pressed.


INPUT-A
SCREEN SEL:S1
SIRCS RECEIVER:
FRONT
POWER SAVING:
PATTERN:OFF
INDEX:01
5BNC MODE:OFF
ON
OFF

PATTERN

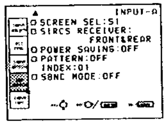
Selects the type of the test pattern to be displayed.


INPUT-A
SCRE
SIRC
POWER
PATTE
INDEX
5BNC
OFF
CROSS HAIR
HATCH(9X9)
HATCH(17X17)
DOT(9X9)

Selectable patterns are: CROSS HAIR, HATCH (9 × 9), HATCH (17 × 17), DOT (9 × 9), H, H INV (inverse), ME, ME INV (inverse), ALL WHITE, WINDOW, WINDOW&LINE and COLOR BAR (serviceman adjustment mode).
Set to OFF when you do not want to display a test pattern.
For displaying the test patterns, see "Test Patterns" on page 61 (EN).

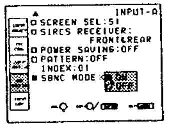
INDEX (Index number)

Indicates the index number of the projector set with the INDEX NO. switches on the rear panel.


INPUT-A
SCREEN SEL:S1
SIRCS RECEIVER:
FRONT&REAR
POWER SAVING:OFF
PATTERN:OFF
INDEX:01
5BNC MODE:OFF

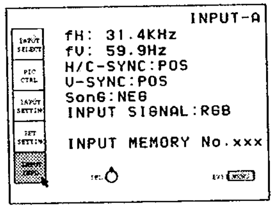
5BNC MODE

Set to ON when you connect the MONITOR OUT connector on the PC-1271/1271M Signal Interface Switcher (not supplied) to the INPUT A connectors with the 5BNC cables.


INPUT-A
SCREEN SEL:S1
SIRCS RECEIVER:
FRONT&REAR
POWER SAVING:OFF
PATTERN:OFF
INDEX:01
5BNC MODE
ON
OFF

The INPUT INFO (Information) Menu

The INPUT INFO menu displays the information on the current input signal.



```
                      INPUT-A
fH:  31.4KHz
fV:  59.9Hz
H/C-SYNC:POS
V-SYNC:POS
SonG:NEG
INPUT SIGNAL:RGB

INPUT MEMORY No.xxx
```

INPUT SELECT
PIC CTRL
INPUT SETTING
SET SETTING

fH (Horizontal frequency)

Indicates the horizontal frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

fV (Vertical frequency)

Indicates the vertical frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

H/C (Horizontal/Composite)-SYNC

Indicates the polarity of the horizontal or composite sync signal. When the picture is being projected using this type of sync signal, the POS (NEG) is displayed in green. When the picture is being projected without using this type of sync signal, the POS (NEG) is displayed in white.
POS: The polarity of the sync signal is positive.
NEG: The polarity of the sync signal is negative.
- - -: No sync signal is input.

V (Vertical)-SYNC

Indicates the polarity of the vertical or composite sync signal.
When the picture is being projected using this type of sync signal, the POS (NEG) is displayed in green.
When the picture is being projected without using this type of sync signal, the POS (NEG) is displayed in white.

POS: The polarity of the sync signal is positive.
NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

SonG (Sync on Green)

Indicates the polarity of the sync on Green. When the picture is being projected using this type of sync signal, the NEG is displayed in green. When the picture is being projected without using this type of sync signal, the NEG is displayed in white.

NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

INPUT SIGNAL

Displays the type of current input signal.

NTSC 3.58: NTSC$_{3.58}$ input signal
PAL: PAL input signal
SECAM: SECAM input signal
NTSC 4.43: NTSC$_{4.43}$ input signal
PAL-M: PAL-M input signal
B/W: Black and white input signal
Y/C: S video input signal
RGB: RGB input signal
COMPONENT: Component input signal
HDTV YPBPR: HDTV YP$_B$P$_R$ input signal
HDTV GBR: HDTV GBR input signal
IDTV: IDTV input signal from the optional PC-1271/1271M Signal Interface Switcher via the optional IFB-3000 Interface Board installed to the PC-1271/1271M.

INPUT MEMORY No.

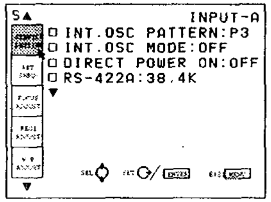
Indicates the memory number of the current input signal.
At the factory ten basic data are stored in the following memory numbers.

Memory number	Preset signal frequencies		Types of the input signal
	fH	fV	
00	15.7 kHz	60 Hz	Video (NTSC$_{3.58}$)
01	24.8 kHz	56 Hz	RGB
02	31.5 kHz	60 Hz	RGB
03	48.3 kHz	60 Hz	RGB
04	64.0 kHz	60 Hz	RGB
05	75.0 kHz	60 Hz	RGB
06	93.7 kHz	75 Hz	RGB
07	106.3 kHz	85 Hz	RGB
08	31.5 kHz	60 Hz	IDTV (NTSC$_{3.58}$)
09	33.8 kHz	60 Hz	HDTV (Y/P$_B$/P$_R$)

The SERVICE SETTING Menu

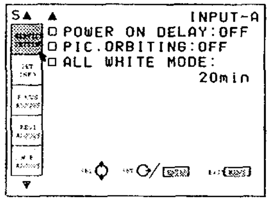
The SERVICE SETTING menu is used for adjustments performed in serviceman adjustment mode. "S" appears at the top left corner of the menu, indicating serviceman adjustment mode.

Page 1



```
SA                    INPUT-A
□ INT.OSC PATTERN:P3
□ INT.OSC MODE:OFF
□ DIRECT POWER ON:OFF
□ RS-422A:38.4K
```

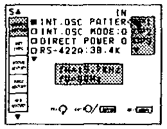
Page 2



```
SA ▲                  INPUT-A
□ POWER ON DELAY:OFF
□ PIC.ORBITING:OFF
□ ALL WHITE MODE:
                   20min
```

INT. (Internal) OSC (Oscillation) PATTERN

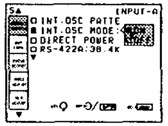
Selects the oscillation frequency pattern generated with the internal oscillator.
The horizontal and vertical frequencies for the selected pattern are displayed in the pop-up menu on the screen.



P1: fH = 15.7 kHz, fV = 60 Hz
P2: fH = 24.8 kHz, fV = 56 Hz
P3: fH = 31.5 kHz, fV = 60 Hz
P4: fH = 48.3 kHz, fV = 60 Hz
P5: fH = 64.0 kHz, fV = 60 Hz
P6: fH = 75.0 kHz, fV = 60 Hz
P7: fH = 93.7 kHz, fV = 75 Hz
P8: fH = 106.3 kHz, fV = 85 Hz

INT. (internal) OSC. (ocillation) MODE

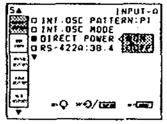
Set to ON to activate the internal oscillator.



Note
When no signal is input, you cannot select this item.

DIRECT POWER ON

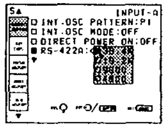
Set to ON to turn on the projector by pressing the MAIN POWER switch on the projector. Set to OFF to enter standby mode by pressing the MAIN POWER switch.



Note
When the projector is in standby mode (it is turned off by pressing the POWER OFF key on the remote control) with DIRECT POWER ON set to ON, the projector will be turned on automatically if the power interruption occured and has been restored.

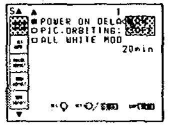
RS-422A

Sets the communication baud rate for the RS-422A terminal to 38.4K, 19.2K, 9600 or 4800.



POWER ON DELAY

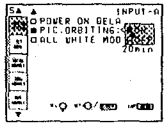
When connecting multiple projectors, set to ON to turn on the projectors sequencially one by one.



```
SA ▲                      1
■POWER ON DELA ◄ON
□PIC.ORBITING: OFF
□ALL WHITE MOD
                     20min
```

PIC. (picture) ORBITING

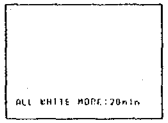
Set to ON to activate the function which shifts the picture slightly to reduce CRT burn.



```
SA ▲                INPUT-A
□POWER ON DELA
■PIC.ORBITING: ◄ON
□ALL WHITE MOD  OFF
                     20min
```

ALL WHITE MODE

Sets the duration of all white mode during a warm-up period.



```
ALL WHITE MODE:20min
```

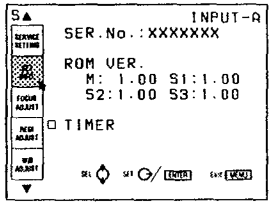
Use the ↑, ↓, ← or → key to set the duration in 1 minute increments from 0 to 99 minutes.

To set the projector to display the picture immediately after the projector is turned on, set the duration to "0 min."

For details, see "Changing the Initialization Period" on page 121 (EN).

The SET INFO (information) Menu

The SET INFO menu displays the information on the projector such as the serial number, a ROM version, the use time of the projector.



```
SA                  INPUT-A
   SER.No.:XXXXXXX

   ROM VER.
     M: 1.00  S1:1.00
     S2:1.00  S3:1.00

□ TIMER
```

SER. (serial) No.

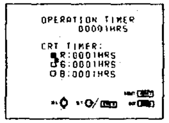
Indicates the serial number of the projector.

ROM VER. (version)

Indicates the ROM version (M, S1, S2 and S3) used for the projector.

TIMER

Indicates the use time of the projector and that of each CRT.



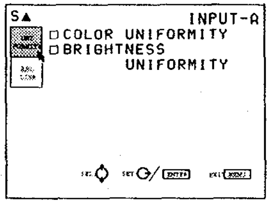
```
OPERATION TIMER
      0000IHRS

CRT TIMER:
 ■R:0001HRS
 □G:0001HRS
 □B:0001HRS
```

OPERATION TIMER: Indicates the total use time of the projector.

CRT TIMER: Indicates the use time of the red, green and blue CRTs, respectively.

The UNIFORMITY Menu

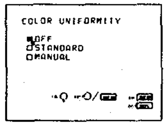
The UNIFORMITY menu is used for making the picture color or brightness uniform.



```
S▲                INPUT-A
  □COLOR UNIFORMITY
  □BRIGHTNESS
          UNIFORMITY
```

COLOR UNIFORMITY

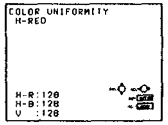
Corrects color shading to make the color of the whole screen uniform.



```
COLOR UNIFORMITY

■OFF
□STANDARD
□MANUAL
```

OFF: This position is selected at the factory.
STANDARD: Set to this position to obtain color uniformity which fits the screen selected in the SCREEN SEL option in the SET SETTING menu.
MANUAL: Set to this position to adjust color uniformity manually by displaying the external signal (all white).

When MANUAL is selected, the following display appears.
Select the adjustment item with the ♦ key, then adjust the item with the ◆ or ◆ key.



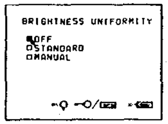
```
COLOR UNIFORMITY
H-RED



H-R:128
H-B:128
V  :128
```

H-R: Adjusts red in the horizontal direction so that it becomes uniform.
H-B: Adjusts blue in the horizontal direction so that it becomes uniform.
V: Adjusts brightness in the vertical direction so that it becomes uniform.

Press the ENTER key after the adjustment is complete.

BRIGHTNESS UNIFORMITY

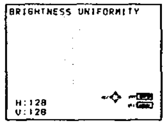
Eliminates hot spots caused by the difference in brightness to make the brightness of the whole screen uniform.



```
BRIGHTNESS UNIFORMITY

■OFF
□STANDARD
□MANUAL
```

OFF: This position is selected at the factory.
STANDARD: Set to this position to obtain brightness uniformity which fits the screen selected in the SCREEN SEL option in the SET SETTING menu.
MANUAL: Set to this position to adjust brightness uniformity manually by displaying the external signal (all white).

When MANUAL is selected, the following display appears.
Adjust the brightness in the horizontal direction with the ◆ or ◆ key and that in the vertical direction with the ♦ or ♦ key so that hot spots disappear from the screen.

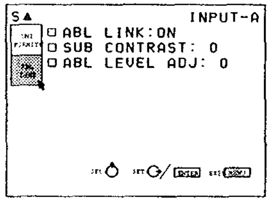


```
BRIGHTNESS UNIFORMITY



H:128
V:128
```

Press the ENTER key after the adjustment is complete.

The ABL (Automatic Brightness Limiter) LINK Menu

The ABL LINK menu is used for adjusting to make the brightness of the multi-screen uniform when connecting multiple projectors.

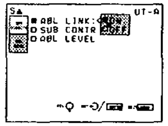


```
S▲                 INPUT-A
   □ ABL LINK:ON
   □ SUB CONTRAST: 0
   □ ABL LEVEL ADJ: 0
```

For details, see "Using the Linked ABL Function" on page 35 (EN).

ABL LINK

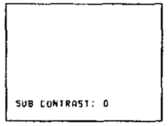
When set to ON, the ABL (Automatic Brightness Limiter; to control the brightness of the picture when it is too high) functions on all projectors once the ABL functions on any projector.



```
S▲                   UT-A
   ■ ABL LINK: ON
   □ SUB CONTR  OFF
   □ ABL LEVEL
```

SUB CONTRAST

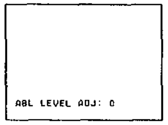
When ABL LINK is set to ON, adjust the brightness of each projector so that the brightness of all projectors looks the same.



```
SUB CONTRAST: 0
```

ABL LEVEL ADJ (adjust)

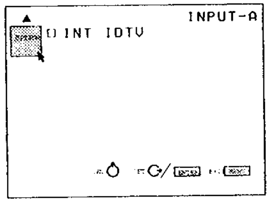
When ABL LINK is set to ON, adjust the brightness of each projector so that the brightness of all projectors looks the same.



```
ABL LEVEL ADJ: 0
```

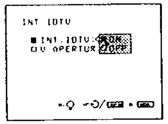
The OPTION Menu

The OPTION menu is used when installing the EXB-DS10 Extension Board to the projector.



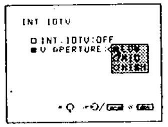
INT. (internal) IDTV

Set to ON to project the video, S video, component or RGB (15 kHz) signal at double density.



V. (vertical) APERTURE

Corrects the sharpness in the vertical direction. You can set the sharpness to the LOW, MID (middle) or HIGH level.



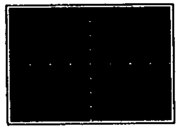
Before adjustment

Test Patterns

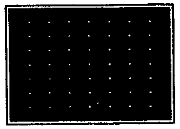
Test Patterns

In each adjustment mode, an appropriate test pattern appears. In addition, you can display other test patterns by pressing the PATTERN key.

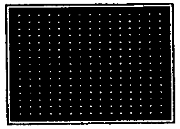
① CROSS HAIR



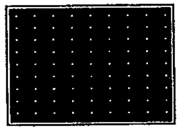
② HATCH (9 x 9)



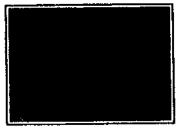
③ HATCH (17 x 17)



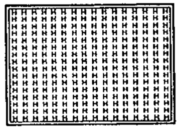
④ DOT (9 x 9)



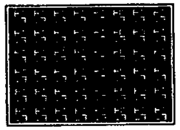
⑤ H



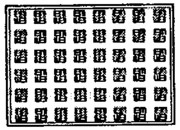
⑥ H INV (inverse)



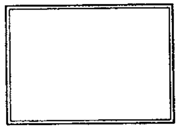
⑦ ME



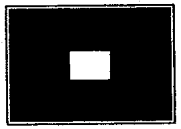
⑧ ME INV (inverse)



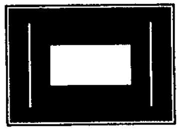
⑨ ALL WHITE



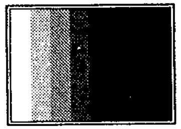
⑩ WINDOW



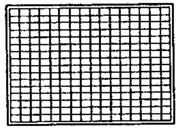
⑪ WINDOW&LINE



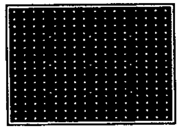
⑫ COLOR BAR



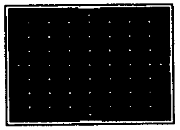
⑬ HATCH INV (invert) (17 x 17) (for adjusting registration only)



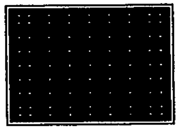
⑭ DOT (17 x 17) & HATCH (5 x 5) (for adjusting the magnetic focus and AQP/DQP only)



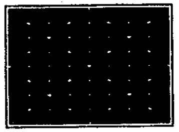
⑮ Sub-pattern 1 (subsidiary adjustment pattern 1) (for adjusting SIZE, LIN, SKEW and BOW only)



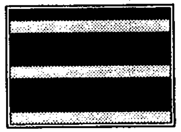
⑯ Sub-pattern 2 (subsidiary adjustment pattern 2) (for adjusting KEY and PIN only)



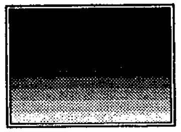
⑰ CROSS (9 x 9)
(for adjusting ZONE only)



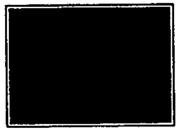
⑱ PLUGE (for adjusting BIAS only)



⑲ Stair step (for adjusting GAIN only)



⑳ 5 IRE
(for adjusting BIAS only)



㉑ 100 IRE
(for adjusting GAIN and BIAS only)

The patterns ① to ⑫ appear in numerical order when pressing the PATTERN key in serviceman adjustment mode.
The patterns ⑬ to ㉑ appear in specified adjustment modes only.
The outmost bold line of each pattern in the illustration stands for the edge of the screen.

Before adjustment

Test Patterns in Each Mode

The patterns cycle through the following order by pressing the PATTERN key.

Adjustment mode	Test pattern
CENT	CROSS HAIR → HATCH (9 x 9) → HATCH (17 x 17) → HATCH INV (17 x 17) → External signal / HATCH (17 x 17) → External signal → CROSS HAIR ...
SIZE LIN SKEW BOW	CROSS HAIR → Sub-pattern 1 → HATCH (17 x 17) → HATCH INV (17 x 17) → External signal / HATCH (17 x 17) → External signal → CROSS HAIR ...
KEY PIN KEY BALANCE PIN BALANCE	HATCH (9 x 9) → Sub-pattern 2 → HATCH (17 x 17) → HATCH INV (17 x 17) → External signal/ HATCH (17 x 17) → External signal → HATCH (9 x 9) ...
ZONE	HATCH (9 x 9) → CROSS (9 x 9) → HATCH (17 x 17) → HATCH INV (17 x 17) → External signal / HATCH (9 x 9) → External signal → HATCH (9 x 9) ...
MG FOCUS AQP/DQP	DOT (9 x 9) → DOT (17 x 17) & HATCH (5 x 5) → ME → ME INV → ALL WHITE → External signal → DOT (9 x 9) ...
GAIN	Stair step → 100 IRE → WINDOW → External signal → Stair step ...
BIAS	PLUGE → 5 IRE → 100 IRE → External signal → PLUGE...
BLKG	External signal / HATCH (17 x 17) ←→ External signal
RGB SIZE RGB SHIFT	External signal ←→ External signal / HATCH (17 x 17)
Serviceman adjustment mode	Test patterns ❶ to ⓬ shown on page 61 (EN).
User adjustment mode	CROSS HAIR → HATCH (9 x 9) → ME → COLOR BAR → CROSS HAIR ...

Adjusting the Focus

Focus Adjustment Procedure

Before starting the adjustments

- Make sure that the projector is installed correctly and the CRT conversion angle is adjusted correctly.
- When the picture is larger than the screen or is projected from the rear of the screen, roughly adjust the registration before proceeding to the focus adjustment.

Procedure

① Set the remote control to the serviceman adjustment mode. *(page 38 (EN))*

↓

② Select the NO INPUT mode. *(page 64 (EN))*

↓

③ Select the internal oscillation pattern (fH = 31.5 kHz). *(page 64 (EN))*

↓

④ Cover the green lens with the supplied cap for focus adjustment.

↓

⑤ Display the H-pattern. *(page 64 (EN))*

↓

⑥ Reset both CONTRAST and BRIGHT levels. *(page 65 (EN))*

↓

⑦ Adjust the green lens focus. *(page 65 (EN))*

↓

⑧ Open the upper cover. *(page 18 (EN))*

↓

⑨ Adjust flapping of the green lens. *(page 66 (EN))*

↓

⑩ Adjust the green magnetic focus, AQP (Axis Quadrupole) and DQP (Diagonal Quadrupole). *(pages 68 (EN) and 69 (EN))*
Repeat steps ⑦ to ⑨ until the green signal is in focus.

↓

⑪ Cover the red lens with the supplied cap for focus adjustment. *(page 70 (EN))*

↓

⑫ Adjust the red lens focus. *(page 70 (EN))*

↓

⑬ Adjust flapping of the red lens. *(page 70 (EN))*

↓

⑭ Adjust the red magnetic focus, AQP (Axis Quadrupole) and DQP (Diagonal quadrupole). *(page 70 (EN))*
Repeat steps ⑫ to ⑭ until the red signal is in focus.

↓

⑮ Cover the blue lens with the supplied cap for focus adjustment. *(page 71 (EN))*

↓

⑯ Adjust the blue lens focus. *(page 71 (EN))*

↓

⑰ Adjust flapping of the blue lens. *(page 71 (EN))*

↓

⑱ Adjust the blue magnetic focus, AQP (Axis Quadrupole) and DQP (Diagonal quadrupole). *(page 71 (EN))*
Repeat steps ⑯ to ⑱ until the blue signal is in focus.

↓

⑲ Adjust the uniformity of all-white mode screen. *(page 72 (EN))*

↓

Proceed to the registration adjustment.

Adjusting the Focus

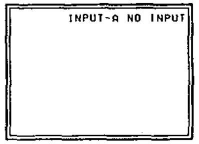
Adjusting the Green Focus

1 Adjusting the green lens focus

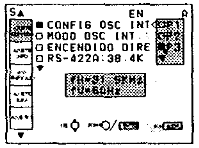
1 Set the remote control to the serviceman adjustment mode.
For details, see "Preparation" on page 38 (EN).

2 Press one of the INPUT SELECT keys on the remote control corresponding to a line that is not connected to a signal.
Or, set the SWITCHER/INDEX select switch to SWITCHER, and then press a number key from 1 to 8 corresponding to a line that is not connected to a signal.

"NO INPUT" appears on the screen.


INPUT-A NO INPUT

3 Display the SERVICE SETTING menu and set INT. OSC PATTERN to P3 (fH = 31.5 kHz).
For details, see "The SERVICE SETTING Menu" on page 55 (EN).

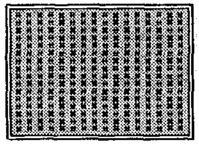


4 Cover the green lens with the supplied cap for focus adjustment.

5 Reset the centering adjustment data of the green signal.
For details, see "Resetting the Data" on page 107 (EN).

6 Press the NORMAL key on the remote control to turn off the test pattern.

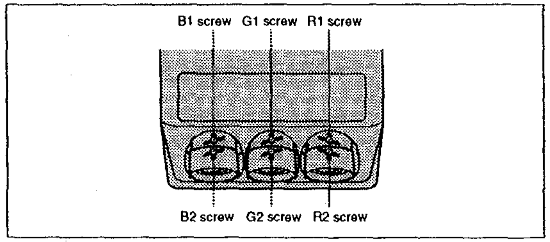
7 Press the PATTERN key on the remote control until the H-pattern appears.



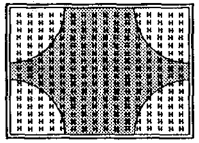
8 Reset the CONTRAST and BRIGHT levels.
The CONTR level resets to 80 by pressing the RESET key after pressing the PICTURE CONTROL CONTR key.
The BRIGHT level resets to 50 by pressing the RESET key after pressing the PICTURE CONTROL BRIGHT key.
For details, see "Adjusting the Picture Quality" on page 110 (EN).

9 Press the CUT OFF R and B keys to display the green signal only.

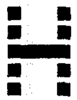
10 Adjust the center-focus.
Loosen the G1 screw, slide it so that the letters H at the center of the screen are in focus, and then tighten the screw.



11 Adjust the corner-focus.
Loosen the G2 screw, slide it so that the letters H at all four corners of the screen (white areas illustrated below) are in focus, and then tighten the screw.
Repeat steps **10** and **11** until the green focus adjustment is completed.
(If the corner-focus cannot be adjusted completely, adjust it again after finishing the flapping adjustment of the green lens.)



Hint for the lens focus adjustment
The letter "H" is made up of dots. Adjust the focus so that dots of the letter "H" can be clearly seen as illustrated below.
Placing a white paper over the front of the screen will make it easier to see the dots.



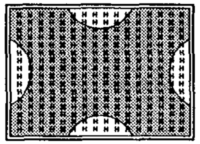
Proceed to the adjustment for flapping of the green lens.

2 Adjusting flapping of the green lens

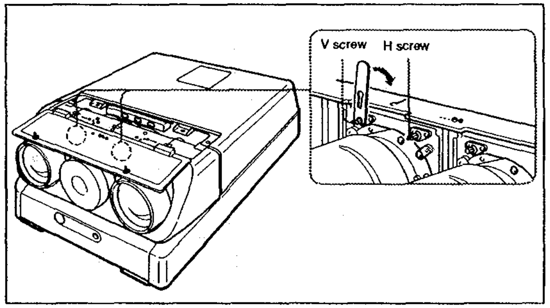
After finishing the lens focus adjustment, adjust flapping of the green lens (angle of the green CRT) so that the upper and lower parts, and the left and right parts of the screen are equally in focus.

1 Open the upper cover.
For how to open the upper cover, see page 18 (EN).

2 Place a white paper over the front of the screen. Note whether the focal surfaces on the upper, lower, left and right parts of the screen appear to be leaning forward or backward.

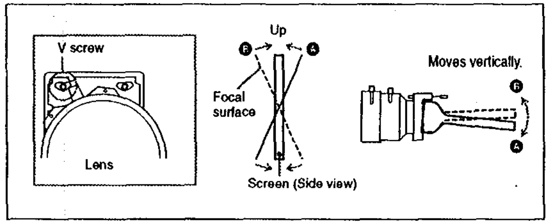


3 Adjust the focus on the upper and lower parts with the V screw on the green CRT using the supplied tool.

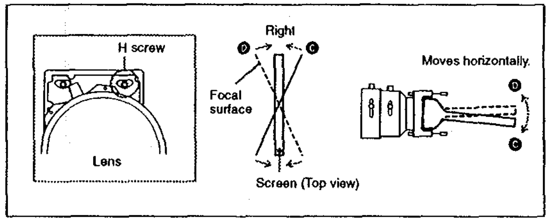

V screw
H screw

Note
Normally, adjust only the V screw for the green CRT. Adjusting the H screw is required only for non-standard installation.
For flapping adjustments of the red and blue lenses, adjust both the H and V screws.

By turning the V screw, the CRT moves vertically to adjust the vertical tilt of the focal surface.


V screw
Lens
Up
Ⓑ
Ⓐ
Focal surface
Screen (Side view)
Moves vertically.
Ⓑ
Ⓐ

By turning the H screw, the CRT moves horizontally to adjust the horizontal tilt of the focal surface.


H screw
Lens
Right
Ⓓ
Ⓒ
Focal surface
Screen (Top view)
Moves horizontally.
Ⓓ
Ⓒ

Repeat the above process until the upper and lower parts and the right and left parts of the screen are in focus.

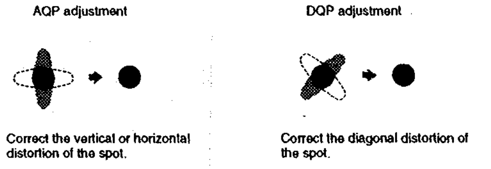
Proceed to the green magnetic focus and AQP/DQP adjustments.

Adjusting the Focus

3 Adjusting the green magnetic focus and AQP/DQP

After adjusting flapping of the lens, adjust the magnetic focus, AQP (Axis Quadrupole) and DQP (Diagonal Quadrupole).

What is the AQP/DQP adjustment?

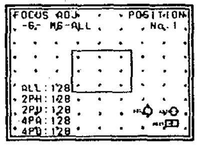


Correct the vertical or horizontal distortion of the spot.

Correct the diagonal distortion of the spot.

1 Press the MG FOCUS key.

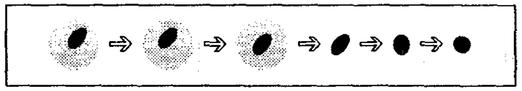
The DOT pattern (9 × 9) appears on the screen, and a square for adjusting focus overlaps with the DOT pattern on the center of the screen.

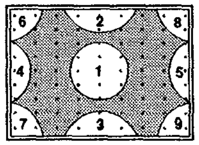


FOCUS ADJ POSITION
-G- MG-ALL No. 1
ALL : 128
2PH : 128
2PV : 128
4PA : 128
4PD : 128

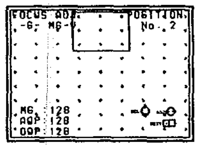
2 Adjust the focus at the center of the screen.

① Press the ← or → key to set ALL to +40 so that flare appears on the screen.
② Press the ↑ or ↓ key to select 2PH, then press the ← or → key so that the core of a spot is located at the horizontal center of the flare.
③ Press the ↑ or ↓ key to select 2PV, then press the ← or → key so that the core of a spot is located at the vertical center of the flare.
④ Repeat steps ② and ③ so that the core of a spot is located at the center of the flare.
⑤ Press the ↑ or ↓ key to select ALL again, then set the value to –80 with the ← or → key so that the spot is focused.
⑥ Press the ↑ or ↓ key to select 4PA, then correct the vertical and horizontal distortion of the spot with the ← or → key.
⑦ Press the ↑ or ↓ key to select 4PD, then correct the diagonal distortion of the spot with the ← or → key.
⑧ Repeat steps ⑥ and ⑦ so that the spot becomes a correct circle.
⑨ Press the ↑ or ↓ key to select ALL and adjust so that the spot is in focus.





3 Press the POSITION + key once to enter the focus adjustment mode for the upper parts.
When you press the POSITION + key, the part to be adjusted cycles through the order as illustrated on the left. The position number is displayed at the upper right corner.
If you press the POSITION – key, the part cycles through the reverse order.



FOCUS ADJ POSITION
-G- MG-Y No. 2
MG : 128
AQP : 128
DQP : 128

4 Adjust the focus and AQP/DQP for the upper part of the screen (white area **2** in the illustration on the left).

① Press the ← or → key so that the upper part of the screen is in focus.
② Select AQP with the ↑ or ↓ key, and press the ← or → key to correct the vertical and horizontal distortion (AQP adjustment).
③ Select DQP with the ↑ or ↓ key, and press the ← or → key to correct the diagonal distortion (DQP adjustment).
④ Repeat steps ① to ③ so that the spot becomes a correct circle.

5 Perform the magnetic focus, AQP and DQP for every part of the screen (white areas **3** to **9** in the illustration) in numeric order.

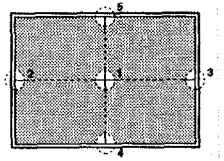
① Press the POSITION + key to select the part to be adjusted.
② Press the ↑ or ↓ key to select the adjustment item.
③ Press the ← or → key to adjust.
Repeat steps ② and ③ for each adjustment item.

Proceed to adjust the red lens focus if the green magnetic focus, AQP and DQP are completed.
If the adjustments are not complete, repeat from the green lens focus again.

Adjusting the Registration

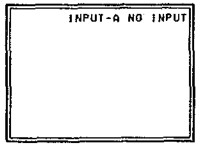
Preparation

1 Mark the center of the screen.
Measure the height and width of the screen to determine the center. Marking five points with white tape, as illustrated below, will help you adjust registration.



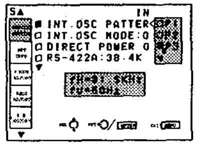
2 Set the remote control to the serviceman adjustment mode.
For details, see "For Remote Control" on page 38 (EN).

3 Press one of the INPUT SELECT keys corresponding to a line that is not connected to a signal so that "NO INPUT" appears.
Or, set the SWITCHER/INDEX select switch to SWITCHER and then press the number key from 1 to 8, corresponding to a line that is not connected to a signal.



INPUT-A NO INPUT

4 Display the SERVICE SETTING menu, select INT. OSC PATTERN, then select the frequency to be used for the adjustment.
For details, see "The SERVICE SETTING Menu" on page 55 (EN).



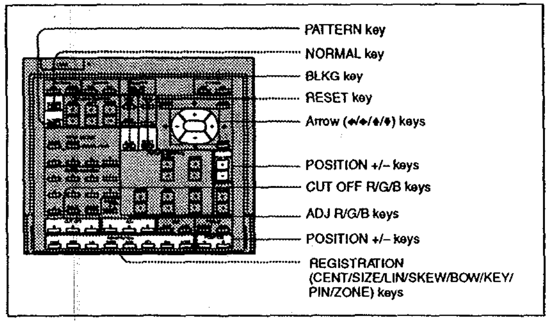
```
S▲                    IN
■ INT.OSC PATTER
□ INT.OSC MODE:0
□ DIRECT POWER 0
□ RS-422A:38.4K
▼
```

5 Reset the standard data to the factory preset level.
(Only when you have adjusted the registration and have saved the adjustment data.)
For details, see "Resetting the Data" on page 107 (EN).

Notes

- The center of the screen and the center of the CROSS HAIR pattern can be aligned by performing the centering adjustment.
For details, see "Green CENT (centering) adjustment" on page 76 (EN).
- When the optical axis angle is smaller, the HATCH pattern becomes trapezoidal. Perform the KEY (keystone) adjustment to correct the distortion.
For details, see "Green KEY and PIN adjustments" on page 81 (EN).

Keys for Adjusting



Indications on the REGISTRATION keys and the adjustment items

Indicated on the control	Adjustment Items
CENT	Centering
SIZE	Size
LIN	Linearity
SKEW	Skew
BOW	Bow
KEY	Keystone, Keystone balance
PIN	Pincushion, Pincushion balance
ZONE	Zone

Adjusting the Green Registration

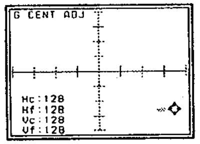
Be sure to adjust the green registration first.

When adjusting green, do not greatly change the ZONE adjustment. If you change the green ZONE in the large range considerably, the adjustment for red and blue may be difficult.

1 Green CENT (centering) adjustment

Adjust so that the center of the test pattern is aligned with the center of the screen.

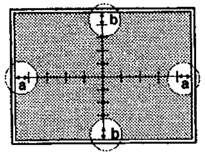
1. Press the CENT key.
   The CROSS HAIR pattern and the cursor appear.
2. Press the ADJ G key.
3. Press the CUT OFF R and B keys to display green only.
4. Press the arrow keys to align the center of the CROSS HAIR pattern with the center of the screen.



Notes

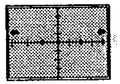
- If the test pattern is off-centered by a large amount, check if the projector is installed or adjusted correctly.
- If the upper, lower, left or right part of the screen is de-focused, check if flapping of the lenses is adjusted correctly.
  For details, see "Adjusting flapping of the green lens" on page 66 (EN).

2 Green SIZE and LIN (linearity) adjustment

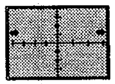


Adjust the picture size with respect to the screen, and the picture's up, down, left and right balance.

1. Press the LIN key.
   The CROSS HAIR pattern appears.
   You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.
2. Press the ADJ G key.
   Pay attention only to the encircled portions illustrated on the left.
3. Adjust with the ← and → keys until parts (ⓐ) (distances from the right and left ends of the screen to the first vertical lines) are of equal length.

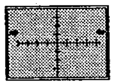


← : The left and right vertical lines are shifted to the left while the vertical center line remains unmoved.

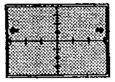


→ : The left and right vertical lines are shifted to the right while the vertical center line remains unmoved.

4. Press the SIZE key.
5. Adjust with the ← and → keys until parts (ⓐ) on the left and right are 15 to 20 mm long.



← : The horizontal scale is reduced.



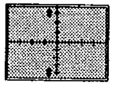
→ : The horizontal scale is expanded.

6. If they are not aligned, press the LIN key and repeat steps **3** to **5**.
7. If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and repeat steps **1** to **6** for the horizontal scale adjustment.
   For details of the centering adjustment, see "Green CENT (centering) adjustment" on page 76 (EN).

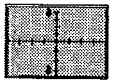
(continued)

8 Press the LIN key.

9 Adjust with the ↑ and ↓ keys until parts (ⓑ) (distances from the top and bottom ends of the screen to the first horizontal lines) are of equal length.



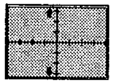
↑ : The upper and lower horizontal lines are shifted upward while the horizontal center line remains unmoved.



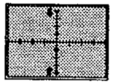
↓ : The upper and lower horizontal lines are shifted downward while the horizontal center line remains unmoved.

10 Press the SIZE key.

11 Adjust with the ↑ and ↓ keys until parts (ⓑ) at the top and bottom are about 15 to 20 mm long.



↑ : The vertical scale is expanded.



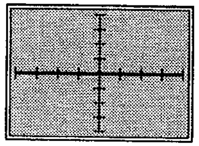
↓ : The vertical scale is reduced.

12 If they are not aligned, repeat steps **8** to **11**.

13 If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and then repeat steps **8** to **12** for the vertical scale adjustment.
For details of the centering adjustment, see "Green CENT (centering) adjustment" on page 76 (EN).

B Green SKEW and BOW adjustments

Adjust the bow-like or skew distortion of the horizontal and vertical center lines to make them parallel to the screen edges.

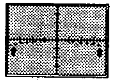


A Horizontal line adjustment

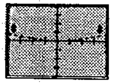
If the horizontal line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the vertical line (bold line illustrated on the left).

1 Press the BOW key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



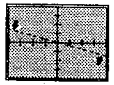
↑ : The left and right ends of the horizontal line curve upward while the center remains unchanged.



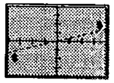
↓ : The left and right ends of the horizontal line curve downward while the center remains unchanged.

3 Press the SKEW key.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



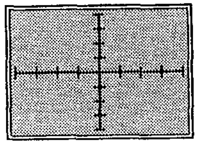
↑ : The horizontal line rotates counter-clockwise, rotating around the center.



↓ : The horizontal line rotates clockwise, rotating around the center.

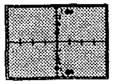
5 Repeat steps **1** to **4** until the horizontal lines become parallel to the screen edges.

Adjusting the Registration

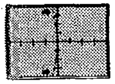


B Vertical line adjustment
If the vertical line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the horizontal line (bold line illustrated on the left).

1. Press the BOW key.
   The CROSS HAIR pattern appears.
   You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.
2. Adjust the distortion as illustrated below with the ← and → keys.

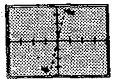


← : The upper and lower ends of the vertical line curve towards the left while the center remains unchanged.

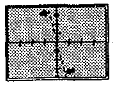


→ : The upper and lower ends of the vertical line curve towards the right while the center remains unchanged.

3. Press the SKEW key.
4. Adjust the distortion as illustrated below with the ← and → keys.



← : The vertical line rotates counter-clockwise, rotating around the center.

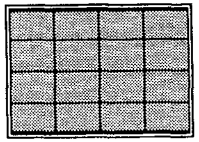


→ : The vertical line rotates clockwise, rotating around the center.

5. Repeat steps **1** to **4** until the vertical lines become parallel to the screen edges.

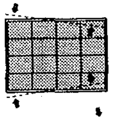
4 Green KEY (keystone) and PIN (pincushion) adjustments

Adjust the trapezoidal distortion and the pin-cushion distortion in the vertical and horizontal directions.

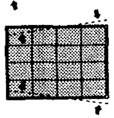


A Horizontal line adjustment
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1. Press the KEY key.
   The HATCH pattern appears.
2. Adjust the distortion as illustrated below with the ↑ and ↓ keys.

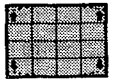


↑ : The lines spread apart on the right side and come together on the left side while the center remains unmoved.

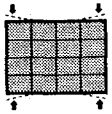


↓ : The lines spread apart on the left side and come together on the right side while the center remains unmoved.

3. Press the PIN key.
4. Adjust the distortion as illustrated below with the ↑ and ↓ keys.

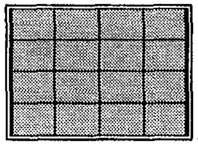


↑ : The ends of the top and bottom lines spread apart while the center remains unmoved.



↓ : The ends of the top and bottom lines come together while the center remains unmoved.

5. Repeat steps **1** to **4** until the horizontal lines become parallel to the screen edges.

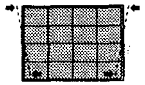


B Vertical line adjustment

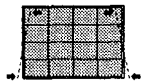
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key.
The HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



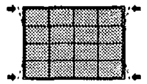
← : The lines spread apart at the bottom and come together at the top while the center remains unmoved.



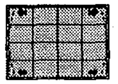
→ : The lines spread apart at the top and come together at the bottom while the center remains unmoved.

3 Press the PIN key.

4 Adjust the distortion as illustrated below with the ← and → keys.



← : The ends of the left and right side lines come together while the center remains unmoved.

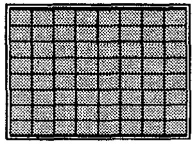


→ : The ends of the left and right lines spread apart while the center remains unmoved.

5 Repeat steps **1** to **4** until the vertical lines become parallel to the screen edges.

5 Green KEY (keystone) BALANCE and PIN (pincushion) BALANCE

Adjust the trapezoidal and pincushion distortion which may still remain even after completing the KEY and PIN adjustments.

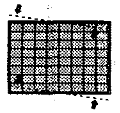


A Horizontal line adjustment

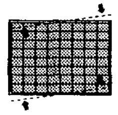
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



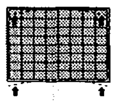
↑ : The right ends of the lines are raised and the left ends are lowered while the center remains unmoved.



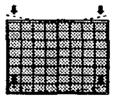
↓ : The left ends of the lines are raised and the right ends are lowered while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



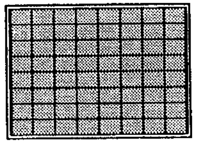
↑ : The ends of the top and bottom lines curve upward while the center remains unmoved.



↓ : The ends of the lines curve downward while the center remains unmoved.

5 Repeat steps **1** to **4** until the horizontal lines become parallel to the screen edges.

Adjusting the Registration

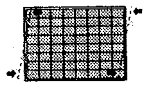


B Vertical line adjustment

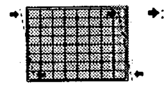
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



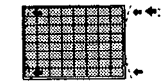
←: The upper ends of the lines move towards the left and the lower ends move towards the right while the center remains unmoved.



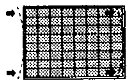
→: The upper ends of the lines move towards the right and the lower ends move towards the left while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ← and → keys.



←: The upper and lower ends of the lines curve towards the left while the center remains unmoved.



→: The upper and lower ends of the lines curve towards the right while the center remains unmoved.

5 Repeat steps **1** to **4** until the vertical lines become parallel to the screen edges.

6 After the adjustment is complete, press the MEMORY key to save the adjustment data.

The green registration adjustment is all completed.
Proceed to the adjustment for the red signal.

Adjusting the Red Registration

Adjust the red signal so that it converges with the green signal and is seen as yellow.

Note

When you have adjusted the red registration data and have saved the adjustment data, reset the red centering to the factory preset level.
For the procedure to reset, see page 107 (EN).

6 Red CENT (centering) adjustment

Adjust so that the center of the red CROSS HAIR pattern is aligned with that of the green CROSS HAIR pattern.

1 Press the CENT key.
The CROSS HAIR pattern and the cursor appear.

2 Press the ADJ R key.

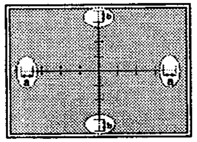
3 Press the CUT OFF B key to display green and red.

4 Press the arrow keys to align the center of the red CROSS HAIR pattern with that of the green pattern.

Notes

- If the red vertical line is not aligned with that of the green pattern, adjust the red CRT conversion angle again.
  For details, see "Adjusting the CRT Conversion Angle" on page 23 (EN).
- If the upper, lower, left or right part of the screen is de-focused, adjust flapping of the red lens again.
  For details, see "Adjusting flapping of the red lens" on page 70 (EN).

7 Red SIZE and LIN (linearity) adjustments



1 Press the LIN key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Press the ADJ R key.
Pay attention only to the encircled portions in the illustration on the left.

3 Adjust with the ← and → keys until the parts (ⓐ) on the left and right are of equal length.
←: The left and right vertical lines are shifted to the left while the vertical center line remains unmoved.
→: The left and right vertical lines are shifted to the right while the vertical center line remains unmoved.

(continued)

4 Press the SIZE key.

5 Adjust with the ← and → keys so that the red and green lines in the right and left encircled portions converge.
←: The horizontal scale is reduced.
→: The horizontal scale is expanded.

6 If the lines do not converge, press the LIN key and repeat steps **3** to **5**.

7 If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and repeat steps **1** to **6** for the horizontal scale adjustment.
For details of the centering adjustment, see "Red CENT (centering) adjustment" on page 85 (EN).

8 Press the LIN key.

9 Adjust with the ↑ and ↓ keys until parts (ⓑ) at the top and bottom are of equal length.
↑: The upper and lower horizontal lines are shifted upward while the horizontal center line remains unmoved.
↓: The upper and lower horizontal lines are shifted downward while the horizontal center line remains unmoved.

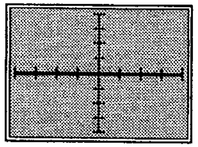
10 Press the SIZE key.

11 Adjust with the ↑ and ↓ keys so that the red and green lines at the top and bottom encircled portions converge.
↑: The vertical scale is expanded.
↓: The vertical scale is reduced.

12 If the lines do not converge, repeat steps **8** to **11**.

13 If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and repeat steps **8** to **12** for the vertical scale adjustment.
For details of the centering adjustment, see "Red CENT (centering) adjustment" on page 85 (EN).

8 Red SKEW and BOW adjustments

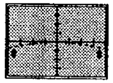


A Horizontal line adjustment

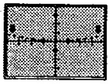
If the horizontal line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the vertical line (bold line illustrated on the left).

1 Press the BOW key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



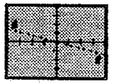
↑ : The left and right ends of the horizontal line curve upward while the center remains unchanged.



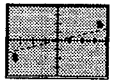
↓ : The right and left ends of the horizontal line curve downward while the center remains unchanged.

3 Press the SKEW key.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



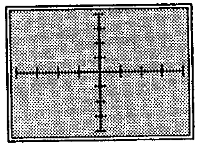
↑ : The horizontal line rotates counter-clockwise, rotating around the center.



↓ : The horizontal line rotates clockwise, rotating around the center.

5 Repeat steps **1** to **4** until the red horizontal line converges with the green line.

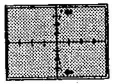
Adjusting the Registration



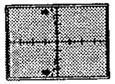
B Vertical line adjustment
If the vertical line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the vertical line (bold line illustrated on the left).

1 Press the BOW key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Adjust the distortion as illustrated below with the ← and → keys.



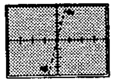
← : The upper and lower ends of the vertical line curve towards the left while the center remains unchanged.



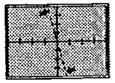
→ : The upper and lower ends of the vertical line curve towards the right while the center remains unchanged.

3 Press the SKEW key.

4 Adjust the distortion as illustrated below with the ← and → keys.



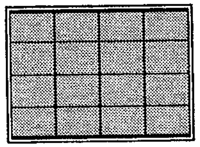
← : The vertical line rotates counter-clockwise, rotating around the center.



→ : The vertical line rotates clockwise, rotating around the center.

5 Repeat steps **1** to **4** until the red vertical line converges with the green line.

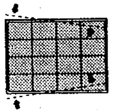
9 Red KEY (keystone) and PIN (pincushion) adjustments



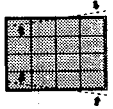
A Horizontal line adjustment
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key.
The HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



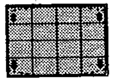
↑ : The lines spread apart on the right side and come together on the left side while the center remains unmoved.



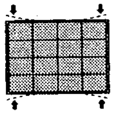
↓ : The lines spread apart on the left side and come together on the right side while the center remains unmoved.

3 Press the PIN key.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.

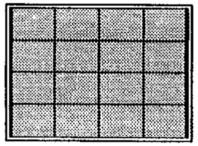


↑ : The ends of the top and bottom lines spread apart while the center remains unmoved.



↓ : The ends of the top and bottom lines come together while the center remains unmoved.

5 Repeat steps **1** to **4** until the red horizontal lines converge with the green lines.

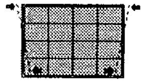


B Vertical line adjustment

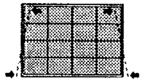
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key.
The HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



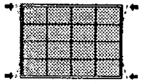
← : The lines spread apart at the bottom and come together at the top while the center remains unmoved.



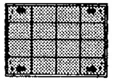
→ : The lines spread apart at the top and come together at the bottom while the center remains unmoved.

3 Press the PIN key.

4 Adjust distortion as illustrated below with the ← and → keys.



← : The ends of the left and right side lines come together while the center remains unmoved.

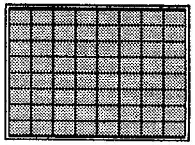


→ : The ends of the left and right lines spread apart while the center remains unmoved.

5 Repeat steps **1** to **4** until the red vertical lines converge with the green lines.

10 Red KEY (keystone) BALANCE and PIN (pincushion) BALANCE

Adjust the trapezoidal and pincushion distortion which may still remain even after completing the KEY and PIN adjustments.

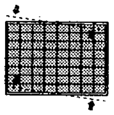


A Horizontal line adjustment

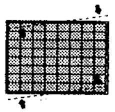
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



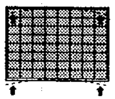
↑ : The right ends of the lines are raised and the left ends are lowered while the center remains unmoved.



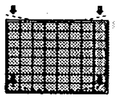
↓ : The left ends of the lines are raised and the right ends are lowered while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



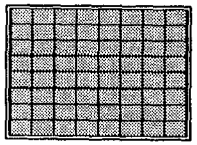
↑ : The ends of the top and bottom lines curve upward while the center remains unmoved.



↓ : The ends of the lines curve downward while the center remains unmoved.

5 Repeat steps **1** to **4** until the red horizontal lines converge with the green lines.

Adjusting the Registration

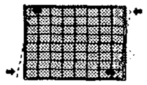


B Vertical line adjustment

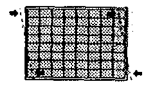
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



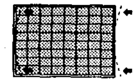
← :The upper ends of the lines move towards the left and the lower ends move towards the right while the center remains unmoved.



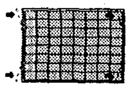
→ :The upper ends of the lines move towards the right and the lower ends move towards the left while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ← and → keys.



← :The upper and lower ends of the lines curve towards the left while the center remains unmoved.



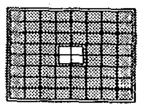
→ :The upper and lower ends of the lines curve towards the right while the center remains unmoved.

5 Repeat steps **1** to **4** until the red vertical lines converge with the green lines.

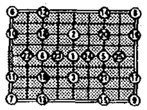
11 Red ZONE adjustment

Adjust red ZONE after the red lines have converged with the green lines by performing the adjustments 6 to 10.

1 Press the ZONE key.
The 9 × 9 HATCH pattern and the cursor appear.



2 Press the POSITION +/– keys to select the part to be adjusted.
When you press the + key, the cursor moves in the numerical order as illustrated.
When you press the – key, the cursor moves in the reverse order.
The selected position number appears at the upper right corner.



If you press the ZONE key again in ZONE adjustment mode, you can move the cursor to the desired position with the ↑, ↓, ←, → keys. When you press the ZONE key again after selecting the position, the projector enters the adjustment mode of that postion.

3 Adjust the red line distortion in the cursor positioning area with the arrow keys.

4 After the adjustment is complete, press the MEMORY key to save the adjustment data.

The red registration adjustment is complete.
Proceed to the registration adjustment of the blue signal.

Adjusting the Blue Registration

Adjust the blue signal so that it converges with the red signal which has been adjusted. When the blue and red test patterns converge, the pattern is seen as magenta.

Note

When you have adjusted the blue registration data and have saved the adjustment data, reset the blue centering to the factory preset level.
For the procedure to reset, see page 107 (EN).

12 Blue CENT (centering) adjustment

Adjust so that the center of the blue CROSS HAIR pattern is aligned with that of the red pattern.

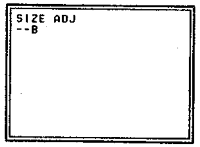
1. Press the CENT key.
   The CROSS HAIR pattern and the cursor appear.
2. Press the ADJ B key.
3. Press the CUT OFF G key to display blue and red.
4. Press the arrow keys to align the center of the blue CROSS HAIR pattern with that of the red pattern.

Notes

- If the blue vertical lines are not aligned with those of the red pattern, adjust the CRT conversion angle again.
  For details, see "Adjusting the CRT Conversion Angle" on page 23 (EN).
- If the upper, lower, left or right part of the screen is de-focused, adjust flapping of the lens again.
  For details, see "Adjusting flapping of the green lens" on page 66 (EN).

13 Blue SIZE, LIN (linearity), SKEW, BOW, KEY (keystone), PIN (pincushion) KEY BALANCE, PIN BALANCE and ZONE adjustments

Adjust so that the blue signal converges with the red signal in each adjustment. The procedures are the same as for adjusting the red registration.
For details, see pages 85 (EN) to 93 (EN).
Make sure that "– – B" appears on the screen when adjusting the blue signal.



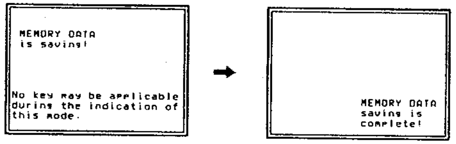
```
SIZE ADJ
--B
```

The blue adjustment is complete. Save the adjustment data as the standard data.

Saving the Standard Registration Data

After adjusting all the registrations for the green, red and blue signals, save the adjustment data as the standard data for the projector.

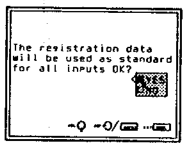
1. Press the MEMORY key and release it.
   The adjustment data is saved in the memory as the data for the frequency selected in INT. OSC PATTERN of the SERVICE SETTING menu.



```
MEMORY DATA
is saving!

No key may be applicable
during the indication of
this mode.
```

```
MEMORY DATA
saving is
complete!
```

2. Hold down the MEMORY key for more than 5 seconds.
   The message and the pop-up menu appear and the projector enters the standard data saving mode.



```
The registration data
will be used as standard
for all inputs OK?
```

3. Press the ♦ or ♦ key to select YES, then press the ENTER key.
   All the registration data will be converted into internal signal data and are saved as standard data.

Notes

- No keys function while the data is being saved.
- If the adjustment data is saved as the standard data, the registration data stored in INPUT MEMORY will be converted into the standard data.

Fine Adjustment for Each Input Signal

After the registration adjustment is performed without an input source and the adjustment data is saved as the standard data, input an external signal and fine adjust for each input signal.

Adjusting the Video Input Signal

1. Connect a video signal to the VIDEO IN jacks or on the signal interface board installed to the INPUT B section.
2. Select the video input source by pressing the INPUT SELECT VIDEO and the SELECT keys or the INPUT SELECT B key on the remote control.
3. Display the INPUT INFO menu and check that the horizontal frequency of the input signal (fH) indicates 15.7 kHz.
   To display the INPUT INFO menu, press the MENU key, select INPUT INFO with the ↑ or ↓ key, then press the ENTER key.
4. Adjust the magnetic focus and AQP/DQP for each input signal.
   For details, see "Adjusting the green magnetic focus and AQP/DQP" on page 68 (EN).

Fine magnetic focus and AQP/DQP adjustments

1. Press the PATTERN key to display the 9 × 9 DOT pattern.
2. If necessary, fine adjust the magnetic focus, AQP and DQP.
   For details, see "Adjusting the green magnetic focus and AQP/DQP" on page 68 (EN).
3. Press the MEMORY key to save the adjustment data.

Note

Do not hold down the MEMORY key in step **3**.

Defocused level in magnetic focus adjustment mode

When the magnetic focus adjustment mode is canceled, or the MG FOCUS key is pressed again in magnetic focus adjustment mode, the blue and red magnetic focus automatically becomes out of focus. With this function, you can obtain picture with optimized uniformity.

The defocused level varies with the color temperature and the horizontal frequency (fH) of the input signal. When you give priority to the spot focus over the white balance of the picture, adjust the magnetic focus and AQP to the level you can get by subtracting the value listed in the table below from the optimized magnetic focus level.

- When adjusting the magnetic focus, the next page's value of magnetic focus is added automatically.
  The value of AQP does not change automatically, so it is needed to be reduced manually.

When the color temperature is 9300K

fH	15.7kHz	24.8kHz	31.5kHz	48.3kHz	64.0kHz	77.1kHz	93.7kHz	106.3kHz
Defocused value (R)	0	0	0	0	0	0	0	0
Defocused value (G)	0	0	0	0	0	0	0	0
Defocused value (B)	+30	+30	+15	+5	−10	0	0	0

When the color temperature is 6500K or 5400K

fH	15.7kHz	24.8kHz	31.5kHz	48.3kHz	64.0kHz	77.1kHz	93.7kHz	106.3kHz
Defocused value (R)	−15	−15	−10	0	0	0	0	0
Defocused value (G)	0	0	0	0	0	0	0	0
Defocused value (B)	+30	+30	+15	+5	−10	0	0	0

When the color temperature is 3200K

fH	15.7kHz	24.8kHz	31.5kHz	48.3kHz	64.0kHz	77.1kHz	93.7kHz	106.3kHz
Defocused value (R)	+15	+15	+10	0	0	0	0	0
Defocused value (G)	0	0	0	0	0	0	0	0
Defocused value (B)	0	0	0	0	0	0	0	0

AQP

fH	15.7kHz	24.8kHz	31.5kHz	48.3kHz	64.0kHz	77.1kHz	93.7kHz	106.3kHz
Defocused value (R)	0	0	0	0	0	0	0	0
Defocused value (G)	0	0	0	0	0	0	0	0
Defocused value (B)	−30	−30	−30	−30	0	0	0	0

Example

- Color temperature: 9300K
- fH = 31.5 kHz
- Optimized blue magnetic focus adjustment level: 130
- Optimized blue AQP adjustment level: 130

To optimize the picture under the above conditions, subtract the value in the above table from the optimized adjustment level.

Magnetic focus: 130 − (+15) = 115
AQP: 130 − (−40) = 170

Therefore, adjust the magnetic focus level to 115 and the AQP level to 170.

Fine registration adjustment

1. Press the PATTERN key to display the CROSS HAIR pattern.
2. If necessary, fine adjust the registrations.
   For details of the adjustment procedure, see "Adjusting the Registration" on pages 73 (EN) to 94 (EN).
3. Press the MEMORY key and release it to save the adjustment data.

Note

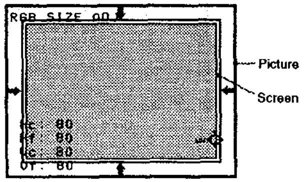
Do not hold down the MEMORY key in step **3**.

SIZE adjustment

Adjust the picture size if it does not fit the screen.

1 Press the RGB SIZE key.
(Use the RGB SIZE key even for the signal other than RGB.)

2 Adjust the picture size with the arrow keys.
↑ : The vertical size is expanded.
↓ : The vertical size is reduced.
→ : The horizontal size is expanded.
← : The horizontal size is reduced.



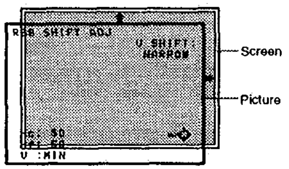
3 Press the MEMORY key to save the adjustment data.

SHIFT adjustment

If the picture needs to be shifted to fit the screen, adjust the position of the picture.

1 Press the RGB SHIFT key.
(Use the RGB SHIFT key even for the signal other than RGB.)

2 Adjust the shift with the arrow keys.
↑ : The picture is shifted upward.
↓ : The picture is shifted downward.
→ : The picture is shifted rightward.
← : The picture is shifted leftward.



Note
When the video signal is input, V SHIFT is automatically fixed to NARROW and the adjustable range will become narrower than that of the RGB signal.

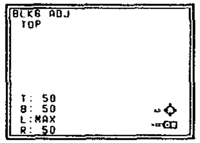
3 Press the MEMORY key to save the adjustment data.

Blanking adjustment

If the displayed picture is larger than the screen, cut off the excess parts.

1 Press the BLKG key.

2 Press the POSITION +/– keys to select the part to be adjusted.
- When you press the + key, the position cycles through the following order:
  TOP → BOTTOM → LEFT → RIGHT → TOP…
- When you press the – key, the position cycles in reverse order.



3 Adjust with the arrow keys.
- Press the ↑ and ↓ keys to adjust the TOP and BOTTOM positions.
- Press the ← and → keys to adjust the LEFT and RIGHT positions.

4 Press the MEMORY key to save the adjustment data.

Note
When you connect multiple video input sources to the projector, such as when using the switcher, adjust the picture size, picture shift and blanking for each input connector.

Fine Adjustment for Each Input Signal

Adjusting the RGB Input Signal

1 Connect an RGB signal to the RGB IN connectors on the INPUT A or on the signal interface board installed to the INPUT B section.

2 Press the INPUT SELECT A or B key on the remote control to select the RGB input signal.

3 Adjust the magnetic focus and AQP/DQP.
For details, see "Adjusting the green magnetic focus and AQP/DQP" on page 68 (EN).

4 Fine adjust the registration if necessary.
For details, see "Adjusting the Registration" on pages 73 (EN) to 94 (EN).

Fine magnetic focus and AQP/DQP adjustments

1 Press the PATTERN key to display the 9 × 9 DOT pattern.

2 If necessary, fine adjust the magnetic focus, AQP and DQP.
For details, see "Adjusting the green magnetic focus and AQP/DQP" on page 68 (EN).

3 Press and release the MEMORY key to save the adjustment data.

Fine registration adjustment

1 Press the PATTERN key to display the CROSS HAIR pattern.

2 If necessary, fine adjust the registration.
For details, see "Adjusting the Registration" on pages 73 (EN) to 94 (EN).

3 When you connect two or more RGB input sources, fine adjust the registration for each input signal.

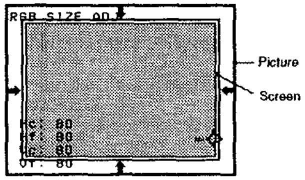
4 Press the MEMORY key and release it to save the adjustment data.

SIZE adjustment

Adjust the picture size if it does not fit the screen.

1 Press the RGB SIZE key.

2 Adjust the picture size with the arrow keys.
↑ :The vertical size is expanded.
↓ :The vertical size is reduced.
→ :The horizontal size is expanded.
← :The horizontal size is reduced.



3 Press the MEMORY key to save the adjustment data.

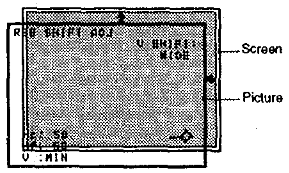
SHIFT adjustment

If the picture needs to be shifted to fit the screen, adjust the RGB SHIFT.

1 Press the RGB SHIFT key.

2 Select the adjustable range of the vertical shift (V SHIFT) with the POSITION +/– keys.
WIDE: Normally, set to this position.
NARROW: Set to this position to make the adjustable range in the vertical direction narrow.

3 Adjust the shift with the arrow keys.
↑ :The picture is shifted upward.
↓ :The picture is shifted downward.
→ :The picture is shifted rightward.
← :The picture is shifted leftward.



4 Press the MEMORY key to save the adjustment data.

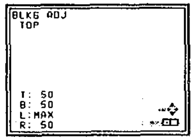
Fine Adjustment for Each Input Signal

Blanking adjustment

If the displayed picture is larger than the screen, cut off the excess parts.

1 Press the BLKG key.

2 Press the POSITION +/– keys to select the part to be adjusted.
- When you press the + key, the position cycles through the following order:
  TOP → BOTTOM → LEFT → RIGHT → TOP ...
- When you press the – key, the position cycles in reverse order.



BLKG ADJ
TOP

T: 50
B: 50
L:MAX
R: 50

3 Adjust with the arrow keys.
- Press the ♠ and ♥ keys to adjust the TOP and BOTTOM positions.
- Press the ♣ and ♦ keys to adjust the LEFT and RIGHT positions.

4 Press the MEMORY key to save the adjustment data.

Note

When you connect two or more RGB input sources to the projector, such as when using the switcher, adjust the picture size, picture shift and blanking for each RGB signal that has a different characteristic. The characteristics are shown in the INPUT INFO menu.

Adjusting the White Balance

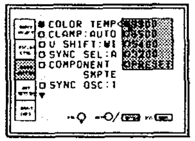
The color temperatures are preset at the factory to 9300K, 6500K, 5400K and 3200K. However, if you change these levels or set a color temperature other than the factory preset levels, you can adjust the white balance and save it in the memory.

Setting the white balance

1 Press the MENU key, select INPUT SETTING with the ♠ or ♥ key, then press the ENTER key.
The INPUT SETTING menu is displayed.

2 Press the ♠ or ♥ key to select COLOR TEMP, then press the ENTER key.

3 Press the ♠ or ♥ key to select the desired color temperature, then press the ENTER key.



● COLOR TEMP
○ CLAMP:AUTO
○ V SHIFT:WI
○ SYNC SEL:A
○ COMPONENT SMPTE
○ SYNC OSC:1

9300
6500
5400
3200
PRESET

Normally set to 6500.
Select the appropriate color temperature according to your application and the picture source.

4 Press the MEMORY key to save the adjustment data.

Adjusting the white balance

If you wish to make the color of a particular input signal (eg. HDTV system picture) uniform to that of the color monitor, you can adjust the white balance.
Display the same input signal on the projector and the monitor.

Adjusting the black level (BIAS adjustment)

1 Reset the CONTRAST level to 80 and BRIGHT level to 50.
For details, see "Adjusting the Picture Quality" on page 110 (EN).

2 Press the W/B BIAS key.
The PLUGE pattern appears. Press the PATTERN key repeatedly to display the external signal.

3 Press the ADJ R, G or B key to select the color to be adjusted.
When selecting the color, pay attention to the black part of the picture displayed on the screen and note which color stands out compared to that of the monitor.

(continued)

Fine Adjustment for Each Input Signal

4 Press the ← or → key so that the black part in the picture on the screen looks the same as that of the monitor.
If the brightness of that part does not look the same as that of the monitor, adjust the other colors by pressing the ADJ R, G or B key and the ← or → key.

5 Press the MEMORY key to save the adjustment data.

Adjusting the white level (GAIN adjustment)

1 Reset the CONTRAST level to 80 and BRIGHT level to 50.
For details, see "Adjusting the Picture Quality" on page 110 (EN).

2 *Press the W/B GAIN key.*
When the GAIN adjustment is followed by the BIAS adjustment, the external signal appears automatically.
When you start with the GAIN adjustment, the stair step pattern appears. Press the PATTERN key repeatedly to display the external signal.

3 Press the ADJ R, G or B key to select the color to be adjusted.
When selecting the color, pay attention to the white part of the picture displayed on the screen and note which color stands out compared to that of the monitor.

4 Press the ← or → key so that the white part in the picture on the screen looks the same as that of the monitor.
If the brightness does not look the same as that of the monitor, adjust the other colors by pressing the ADJ R, G or B key and the ← or → key.

5 Press the MEMORY key to save the adjustment data.

When using multiple projectors

Input the same signal to the base projector and the projector to be adjusted. Set COLOR TEMP in the INPUT SETTING menu to the same position on both projectors, and then follow the procedures described above to make the black and white colors uniform between the base projector and the projector to be adjusted.

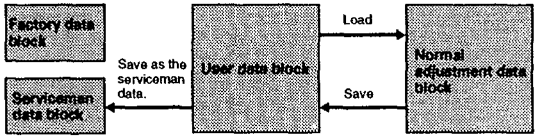
Notes

- When adjusting the white balance, use the external color monitor for the reference of the color.
- To adjust the white balance easily without the on-screen display, press the STATUS OFF key on the remote control or set the STATUS option in the SET SETTING menu to OFF.
- You can adjust the white balance more easily if you set the color level to MIN to display the black and white picture.

Saving the Adjustment Data

Memory structure

The memory structure of this projector consists of three memory blocks and a normal adjustment data block.



Factory data block: The ten basic adjustment data for different types of signals shown in the table on page 106 (EN) are preset at the factory. The adjustment data in this block cannot be changed.

Serviceman data block: The ten basic adjustment data for different types of signals shown in the table on page106 (EN) are preset at the factory. The data saved in the user data block can be saved as the serviceman data.
For the procedure of how to save the SERVICEMAN DATA, see page 109 (EN).

User data block: The ten basic adjustment data for different types of signals shown in the table on page106 (EN) are preset at the factory. When a signal is input for the first time, one of the ten basic data that has the nearest frequency is automatically selected for the signal. If any of the data for the signal is adjusted, the data is saved as an input memory in one of the memory numbers 00 to 99. (If no data is adjusted, it is not saved.)
The adjustment data for each input signal, if any one of the signal input conditions–vertical or horizontal frequency, type of sync signal, type of input signal and input connector–is different, is saved in different memory number as an individual input memory.

Normal adjustment data block: The data during adjustment is temporarily saved in this block. When you press the ENTER or MEMORY key after adjustment, the adjustment data is stored in the user data block.

Standard registration data and the input memory

If the adjusted registration data is saved as the standard data after installing the projector, the registration data for all of the input memories will be changed to reflect the new data in that installation condition. Therefore, you can easily adjust the registration for each input signal.
For the procedure of how to save the standard data, see page 95 (EN).

Saving the Adjustment Data

Preset data at the factory

The projector presets ten types of basic data in memory numbers 00 to 09 of the factory data and serviceman data blocks.

Memory number	Horizontal frequency (fH)	Vertical frequency (fV)	Type of the input signal
00	15.7 kHz	60 Hz	Video ($NTSC_{3.58}$)
01	24.8 kHz	56 Hz	RGB
02	31.5 kHz	60 Hz	RGB
03	48.3 kHz	60 Hz	RGB
04	64.0 kHz	60 Hz	RGB
05	75.0 kHz	60 Hz	RGB
06	93.7 kHz	75 Hz	RGB
07	106.3 kHz	85 Hz	RGB
08	31.5 kHz	60 Hz	IDTV ($NTSC_{3.58}$)
09	33.8 kHz	60 Hz	HDTV ($Y/P_B/P_R$)

Memory architecture

The following adjustment data will be saved in three memory blocks.

Memory	Adjustment data	Number of memories
Input memory	Picture control (CONTRAST, BRIGHT, COLOR, HUE, SHARP) SIZE/SHIFT Blanking Color temperature Clamp position V SHIFT Registration Magnetic focus, AQP/DQP	Memory numbers 00–99 (100 at maximum)
Color temperature memory	White balance (BIAS/GAIN data for each color temperature of each screen)	Four color temperature settings (9300K/6500K/5400K/3200K)
Setting memory	Baud rate, CRT timer, STATUS ON/OFF, language, index, brightness/color uniformity, video memory	One for each projector

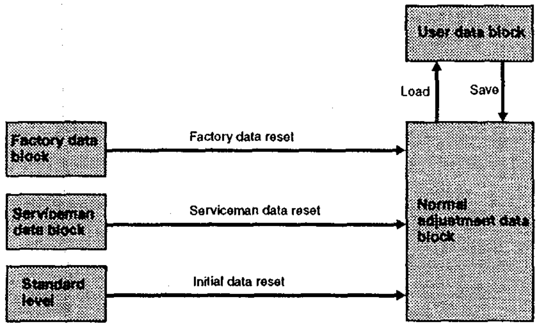
Resetting the Data

There are three ways to reset the data, as shown below.

Factory data reset
Resets to the factory preset data saved in the factory data block.

Serviceman data reset
Resets to the data saved in the serviceman data block.

Initial data reset
Resets to the standard level.
For registration, white balance or blanking data, resets to the specified level.

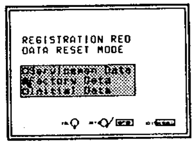

User data block
Load
Save
Factory data block
Factory data reset
Serviceman data block
Serviceman data reset
Standard level
Initial data reset
Normal adjustment data block

Resetting the Data

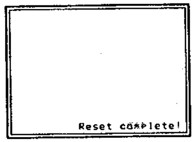
Resetting the data

1 Select the adjustment mode to be reset.

2 Press the RESET key.
The following display appears. (Example: To reset the red registration data to the factory preset data)


REGISTRATION RED
DATA RESET MODE

3 Press the ♦ or ♦ key to select the reset mode, then press the ENTER key.
To cancel reset mode, press the NORMAL key.

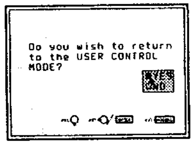

Reset complete!

All red registration adjustment data will be reset to the factory preset data.

Protecting the Setting

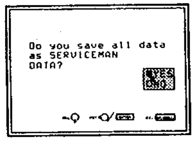
When you turn off the projector with the remote control, the adjustment keys become inoperable in order to prevent users from accidentally changing the adjustments (user mode).
It is also possible to make the keys inoperable while the power is on in the following way.

1 Press the keys on the remote control in the following order:
ENTER → ENTER → ♦ → ♦ → ENTER
The following display appears.


Do you wish to return to the USER CONTROL MODE?

2 Press the ♦ or ♦ key to select "YES," then press the ENTER key.

3 Select whether all the adjustment data are saved as the serviceman data.
Press the ♦ or ♦ key to select "YES" or "NO," then press the ENTER key.


Do you save all data as SERVICEMAN DATA?

The adjustment keys on the remote control become inoperable (user mode).

List of the Projection Distance by Angle of Optical Axis

When using the 160 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	4229 (166 1/2)	4245 (167 1/4)	4258 (167 3/4)	4269 (168 1/8)	4279 (168 1/2)	4289 (168 7/8)	4297 (169 1/4)	4305 (169 1/2)	4312 (169 7/8)	4317 (170)	4323 (170 1/4)	4331 (170 5/8)	4360 (171 3/4)	4384 (172 5/8)	4406 (173 1/2)	4431 (174 1/2)	4447 (175 1/8)	4456 (175 1/2)
B Ylens	1151 (45 3/8)	1059 (41 3/4)	983 (38 3/4)	907 (35 3/4)	832 (32 7/8)	756 (29 7/8)	681 (26 7/8)	605 (23 7/8)	529 (20 7/8)	454 (17 7/8)	378 (15)	303 (12)	229 (9 1/8)	153 (6 1/8)	77 (3 1/8)	0 (0)	-78 (-3 1/8)	-156 (-6 1/4)
D TD	4383 (172 5/8)	4375 (172 1/4)	4370 (172 1/8)	4364 (171 7/8)	4359 (171 5/8)	4355 (171 1/2)	4351 (171 3/8)	4347 (171 1/4)	4344 (171 1/8)	4341 (171)	4340 (171 7/8)	4342 (171)	4366 (172)	4386 (172 3/4)	4407 (173 5/8)	4431 (174 1/2)	4447 (175 1/8)	4459 (175 5/8)
C dVoff	0 (0)	16 (21/32)	30 (13/16)	42 (1 11/16)	55 (2 1/4)	69 (2 3/4)	81 (3 1/4)	95 (3 3/4)	108 (4 3/8)	121 (4 7/8)	122 (4 7/8)	122 (4 7/8)	123 (4 7/8)	123 (4 7/8)	124 (5)	124 (5)	124 (5)	125 (5)

When using the 170 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	4486 (176 3/4)	4504 (177 3/8)	4516 (177 7/8)	4528 (178 3/8)	4539 (178 3/4)	4549 (179 1/8)	4559 (179 5/8)	4567 (179 7/8)	4574 (180 1/8)	4580 (180 3/8)	4586 (180 5/8)	4595 (181)	4625 (182 1/8)	4650 (183 1/8)	4674 (184 1/8)	4700 (185 1/8)	4717 (185 3/4)	4727 (186 1/8)
B Ylens	1221 (48 1/8)	1123 (44 1/4)	1043 (41 1/8)	963 (38)	882 (34 3/4)	802 (31 5/8)	722 (28 1/2)	642 (25 3/8)	562 (22 1/4)	481 (19)	401 (15 7/8)	321 (12 3/4)	242 (9 5/8)	162 (6 1/2)	82 (3 1/4)	0 (0)	-82 (-3 1/4)	-165 (-6 1/2)
D TD	4650 (183 1/8)	4641 (182 3/4)	4635 (182 1/2)	4630 (182 3/8)	4624 (182 1/8)	4620 (182)	4615 (181 3/4)	4611 (181 5/8)	4608 (181 1/2)	4605 (181 3/8)	4604 (181 3/8)	4606 (181 3/8)	4631 (182 3/8)	4653 (183 1/4)	4675 (184 1/8)	4700 (185 1/8)	4718 (185 3/4)	4730 (186 1/4)
C dVoff	0 (0)	17 (11/16)	32 (1 5/16)	45 (1 13/16)	59 (2 3/8)	73 (2 7/8)	86 (3 1/2)	101 (4)	114 (4 1/2)	129 (5 1/8)	130 (5 1/8)	130 (5 1/8)	130 (5 1/8)	131 (5 1/4)	131 (5 1/4)	132 (5 1/4)	132 (5 1/4)	132 (5 1/4)

When using the 180 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	4743 (186 3/4)	4762 (187 1/2)	4775 (188)	4788 (188 5/8)	4800 (189)	4810 (189 3/8)	4820 (189 7/8)	4828 (190 1/8)	4836 (190 1/2)	4842 (190 3/4)	4849 (191)	4858 (191 3/8)	4890 (192 5/8)	4917 (193 5/8)	4942 (194 5/8)	4969 (195 3/4)	4987 (196 3/8)	4997 (196 3/4)
B Ylens	1292 (50 7/8)	1187 (46 3/4)	1102 (43 1/2)	1018 (40 1/8)	933 (36 3/4)	848 (33 1/2)	763 (30 1/8)	679 (26 3/4)	594 (23 3/8)	509 (20 1/8)	424 (16 3/4)	340 (13 1/2)	256 (10 1/8)	172 (6 7/8)	86 (3 1/2)	0 (0)	-87 (-3 1/2)	-175 (-7)
D TD	4916 (193 5/8)	4907 (193 1/4)	4901 (193)	4895 (192 3/4)	4889 (192 1/2)	4884 (192 3/8)	4880 (192 1/4)	4876 (192)	4872 (191 7/8)	4869 (191 3/4)	4867 (191 5/8)	4870 (191 3/4)	4897 (192 7/8)	4920 (193 3/4)	4942 (194 5/8)	4969 (195 3/4)	4988 (196 1/2)	5001 (197)
C dVoff	0 (0)	18 (23/32)	33 (1 5/16)	47 (1 7/8)	62 (2 1/2)	77 (3 1/8)	91 (3 5/8)	107 (4 1/4)	121 (4 7/8)	136 (5 3/8)	137 (5 1/2)	137 (5 1/2)	138 (5 1/2)	138 (5 1/2)	139 (5 1/2)	139 (5 1/2)	140 (5 5/8)	140 (5 5/8)

When using the 190 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	4999 (196 7/8)	5018 (197 5/8)	5033 (198 1/4)	5046 (198 3/4)	5058 (199 1/4)	5069 (199 5/8)	5079 (200)	5088 (200 3/8)	5096 (200 3/4)	5103 (201)	5110 (201 1/4)	5120 (201 5/8)	5153 (202 7/8)	5181 (204)	5208 (205 1/8)	5237 (206 1/4)	5256 (207)	5267 (207 3/8)
B Ylens	1362 (53 5/8)	1251 (49 3/8)	1162 (45 3/4)	1073 (42 1/4)	983 (38 3/4)	894 (35 1/4)	805 (31 3/4)	715 (28 1/4)	626 (24 3/4)	536 (21 1/8)	447 (17 5/8)	358 (14 1/8)	270 (10 3/4)	181 (7 1/4)	91 (3 5/8)	0 (0)	-92 (-3 5/8)	-184 (-7 1/4)
D TD	5181 (204)	5172 (203 5/8)	5165 (203 3/8)	5159 (203 1/8)	5153 (202 7/8)	5147 (202 3/4)	5143 (202 1/2)	5138 (202 3/8)	5135 (202 1/4)	5131 (202 1/8)	5130 (202)	5132 (202 1/8)	5161 (203 1/4)	5185 (204 1/4)	5209 (205 1/8)	5237 (206 1/4)	5257 (207)	5270 (207 1/2)
C dVoff	0 (0)	19 (3/4)	35 (1 7/16)	50 (2)	66 (2 5/8)	82 (3 1/4)	96 (3 7/8)	113 (4 1/2)	128 (5 1/8)	144 (5 3/4)	145 (5 3/4)	145 (5 3/4)	146 (5 3/4)	146 (5 3/4)	147 (5 7/8)	147 (5 7/8)	148 (5 7/8)	148 (5 7/8)

When using the 200 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	5254 (206 7/8)	5275 (207 3/4)	5290 (208 3/8)	5304 (208 7/8)	5317 (209 3/8)	5328 (209 7/8)	5339 (210 1/4)	5348 (210 5/8)	5357 (211)	5364 (211 1/4)	5371 (211 1/2)	5381 (211 7/8)	5417 (213 3/8)	5446 (214 1/2)	5474 (215 5/8)	5504 (216 3/4)	5524 (217 1/2)	5536 (218)
B Ylens	1432 (56 1/2)	1315 (51 7/8)	1221 (48 1/8)	1127 (44 3/8)	1033 (40 3/4)	940 (37 1/8)	846 (33 3/8)	752 (29 5/8)	658 (26)	564 (22 1/4)	470 (18 5/8)	376 (14 7/8)	284 (11 1/4)	190 (7 1/2)	96 (3 7/8)	0 (0)	-96 (-3 7/8)	-193 (-7 5/8)
D TD	5446 (214 1/2)	5436 (214 1/8)	5429 (213 7/8)	5422 (213 1/2)	5416 (213 1/4)	5411 (213 1/8)	5406 (212 7/8)	5401 (212 3/4)	5397 (212 1/2)	5394 (212 3/8)	5392 (212 3/8)	5394 (212 3/8)	5424 (213 5/8)	5450 (214 5/8)	5475 (215 5/8)	5504 (216 3/4)	5525 (217 5/8)	5539 (218 1/8)
C dVoff	0 (0)	21 (27/32)	37 (1 1/2)	53 (2 1/8)	69 (2 3/4)	86 (3 1/2)	101 (4)	119 (4 3/4)	135 (5 3/8)	152 (6)	153 (6 1/8)	153 (6 1/8)	154 (6 1/8)	154 (6 1/8)	155 (6 1/8)	155 (6 1/8)	156 (6 1/4)	156 (6 1/4)

When using the 210 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	5511 (217)	5533 (217 7/8)	5549 (218 1/2)	5563 (219 1/8)	5577 (219 5/8)	5589 (220 1/8)	5600 (220 1/2)	5610 (220 7/8)	5619 (221 1/4)	5626 (221 1/2)	5634 (221 7/8)	5644 (222 1/4)	5682 (223 3/4)	5713 (225)	5742 (226 1/8)	5774 (227 3/8)	5794 (228 1/8)	5807 (228 5/8)
B Ylens	1502 (59 1/4)	1380 (54 3/8)	1281 (50 1/2)	1183 (46 5/8)	1084 (42 3/4)	986 (38 7/8)	887 (35)	788 (31 1/8)	690 (27 1/4)	591 (23 3/8)	493 (19 1/2)	395 (15 5/8)	298 (11 3/4)	199 (7 7/8)	100 (4)	0 (0)	-101 (-4)	-203 (-8)
D TD	5713 (225)	5702 (224 1/2)	5695 (224 1/4)	5688 (224)	5681 (223 3/4)	5675 (223 1/2)	5670 (223 1/4)	5665 (223 1/8)	5661 (223 7/8)	5657 (222 3/4)	5655 (222 3/4)	5658 (222 7/8)	5690 (224 1/8)	5716 (225 1/8)	5743 (226 1/8)	5774 (227 3/8)	5795 (228 1/4)	5810 (228 3/4)
C dVoff	0 (0)	22 (7/8)	39 (1 9/16)	55 (2 1/4)	73 (2 7/8)	90 (3 5/8)	107 (4 1/4)	125 (5)	142 (5 5/8)	159 (6 3/8)	161 (6 3/8)	160 (6 3/8)	161 (6 3/8)	162 (6 1/2)	163 (6 1/2)	163 (6 1/2)	163 (6 1/2)	164 (6 1/2)

When using the 220 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	5768 (227 1/8)	5791 (228)	5807 (228 5/8)	5823 (229 3/8)	5837 (229 7/8)	5850 (230 3/8)	5861 (230 7/8)	5872 (231 1/4)	5881 (231 5/8)	5889 (231 7/8)	5897 (232 1/4)	5908 (232 5/8)	5947 (234 1/4)	5979 (235 1/2)	6009 (236 5/8)	6043 (238)	6065 (238 7/8)	6077 (239 3/8)
B Ylens	1573 (62)	1444 (56 7/8)	1341 (52 7/8)	1238 (48 3/4)	1135 (44 3/4)	1031 (40 5/8)	928 (36 5/8)	825 (32 1/2)	722 (28 1/2)	619 (24 3/8)	516 (20 3/8)	413 (16 3/8)	312 (12 3/8)	209 (8 1/4)	105 (4 1/4)	0 (0)	-106 (-4 1/4)	-212 (-8 3/8)
D TD	5979 (235 1/2)	5968 (235)	5960 (234 3/4)	5953 (234 3/8)	5946 (234 1/8)	5940 (234 7/8)	5934 (233 5/8)	5929 (233 1/2)	5925 (233 3/8)	5921 (233 1/8)	5919 (233 1/8)	5922 (233 1/4)	5955 (234 1/2)	5983 (235 5/8)	6010 (236 5/8)	6043 (238)	6066 (238 7/8)	6081 (239 1/2)
C dVoff	0 (0)	23 (29/32)	41 (1 5/8)	58 (2 3/8)	76 (3)	94 (3 3/4)	112 (4 1/2)	131 (5 1/4)	148 (5 7/8)	167 (6 5/8)	168 (6 5/8)	168 (6 5/8)	169 (6 3/4)	169 (6 3/4)	170 (6 3/4)	170 (6 3/4)	171 (6 3/4)	171 (6 3/4)

When using the 230 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	6025 (237 1/4)	6049 (238 1/4)	6066 (238 7/8)	6082 (239 1/2)	6097 (240 1/8)	6110 (240 5/8)	6122 (241 1/8)	6133 (241 1/2)	6143 (242)	6151 (242 1/4)	6159 (242 5/8)	6171 (243)	6212 (244 5/8)	6245 (245 7/8)	6277 (247 1/4)	6312 (248 5/8)	6335 (249 1/2)	6348 (250)
B Ylens	1643 (64 3/4)	1508 (59 3/8)	1401 (55 1/4)	1293 (51)	1185 (46 3/4)	1077 (42 1/2)	970 (38 1/4)	862 (34)	754 (29 3/4)	647 (25 1/2)	539 (21 1/4)	432 (17 1/8)	326 (12 7/8)	218 (8 5/8)	110 (4 3/8)	0 (0)	-111 (-4 3/8)	-222 (-8 3/4)
D TD	6245 (245 7/8)	6234 (245 1/2)	6226 (245 1/8)	6218 (244 7/8)	6211 (244 5/8)	6205 (244 3/8)	6199 (244 1/8)	6193 (243 7/8)	6189 (243 3/4)	6185 (243 5/8)	6183 (243 1/2)	6186 (243 5/8)	6220 (245)	6249 (246 1/8)	6278 (247 1/4)	6312 (248 5/8)	6336 (249 1/2)	6352 (250 1/8)
C dVoff	0 (0)	24 (31/32)	43 (1 3/4)	61 (2 1/2)	80 (3 1/4)	99 (4)	117 (4 5/8)	136 (5 3/8)	155 (6 1/8)	174 (6 7/8)	176 (7)	176 (7)	176 (7)	177 (7)	178 (7 1/8)	178 (7 1/8)	179 (7 1/8)	179 (7 1/8)

List of the Projection Distance by Angle of Optical Axis

When using the 240 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	6282 (247 3/8)	6307 (248 3/8)	6325 (249 1/8)	6342 (249 3/4)	6357 (250 3/8)	6371 (250 7/8)	6384 (251 3/8)	6395 (251 7/8)	6405 (252 1/4)	6413 (252 1/2)	6422 (252 7/8)	6434 (253 3/8)	6477 (255 1/8)	6512 (256 1/2)	6545 (257 3/4)	6581 (259 1/8)	6605 (260 1/8)	6619 (260 5/8)
B Ylens	1713 (67 1/2)	1573 (62)	1460 (57 1/2)	1348 (53 1/8)	1236 (48 3/4)	1123 (44 1/4)	1011 (39 7/8)	899 (35 1/2)	786 (31)	674 (26 5/8)	562 (22 1/4)	450 (17 3/4)	339 (13 3/8)	227 (9)	114 (4 1/2)	0 (0)	-115 (-4 5/8)	-231 (-9 1/8)
D TD	6512 (256 1/2)	6500 (256)	6491 (255 5/8)	6483 (255 1/4)	6476 (255)	6469 (254 3/4)	6463 (254 1/2)	6458 (254 3/8)	6453 (254 1/8)	6449 (254)	6446 (253 7/8)	6450 (254)	6485 (255 3/8)	6516 (256 5/8)	6546 (257 3/4)	6581 (259 1/8)	6606 (260 1/8)	6623 (260 3/4)
C dVoff	0 (0)	25 (1)	45 (1 13/16)	63 (2 1/2)	83 (3 3/8)	103 (4 1/8)	122 (4 7/8)	142 (5 5/8)	162 (6 1/2)	182 (7 1/4)	184 (7 1/4)	183 (7 1/4)	184 (7 1/4)	185 (7 3/8)	186 (7 3/8)	186 (7 3/8)	187 (7 3/8)	187 (7 3/8)

When using the 250 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	6539 (257 1/2)	6565 (258 1/2)	6584 (259 1/4)	6601 (260)	6617 (260 5/8)	6631 (261 1/8)	6645 (261 5/8)	6656 (262 1/8)	6667 (262 1/2)	6676 (262 7/8)	6685 (263 1/4)	6697 (263 3/4)	6741 (265 1/2)	6778 (266 7/8)	6812 (268 1/4)	6850 (269 3/4)	6875 (270 3/4)	6889 (271 1/4)
B Ylens	1783 (70 1/4)	1637 (64 1/2)	1520 (59 7/8)	1403 (55 1/4)	1286 (50 3/4)	1169 (46 1/8)	1052 (41 1/2)	936 (36 7/8)	819 (32 1/4)	702 (27 3/4)	585 (23 1/8)	468 (18 1/2)	353 (14)	237 (9 3/8)	119 (4 3/4)	0 (0)	-120 (-4 3/4)	-241 (-9 1/2)
D TD	6778 (266 7/8)	6766 (266 1/2)	6757 (266 1/8)	6749 (265 3/4)	6741 (265 1/2)	6734 (265 1/8)	6728 (265)	6722 (264 3/4)	6717 (264 1/2)	6713 (264 3/8)	6710 (264 1/4)	6714 (264 3/8)	6751 (265 7/8)	6782 (267 1/8)	6814 (268 3/8)	6850 (269 3/4)	6876 (270 3/4)	6894 (271 1/2)
C dVoff	0 (0)	26 (1 1/16)	46 (1 13/16)	66 (2 5/8)	86 (3 1/2)	107 (4 1/4)	127 (5)	148 (5 7/8)	169 (6 3/4)	189 (7 1/2)	191 (7 5/8)	191 (7 5/8)	192 (7 5/8)	192 (7 5/8)	194 (7 3/4)	194 (7 3/4)	194 (7 3/4)	195 (7 3/4)

When using the 260 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	6798 (267 3/4)	6824 (268 3/4)	6844 (269 1/2)	6862 (270 1/4)	6878 (270 7/8)	6893 (271 1/2)	6907 (272)	6919 (272 1/2)	6930 (272 7/8)	6939 (273 1/4)	6949 (273 5/8)	6962 (274 1/8)	7008 (276)	7046 (277 1/2)	7082 (278 7/8)	7121 (280 3/8)	7147 (281 1/2)	7162 (282)
B Ylens	1854 (73)	1702 (67 1/8)	1580 (62 1/4)	1459 (57 1/2)	1337 (52 3/4)	1216 (47 7/8)	1094 (43 1/8)	972 (38 3/8)	851 (33 5/8)	729 (28 3/4)	608 (24)	487 (19 1/4)	367 (14 1/2)	246 (9 3/4)	124 (5)	0 (0)	-125 (-5)	-250 (-9 7/8)
D TD	7046 (277 7/16)	7033 (276 15/16)	7024 (276 11/32)	7015 (276 7/32)	7007 (275 29/32)	7000 (275 5/8)	6993 (275 3/8)	6987 (275 1/4)	6982 (275)	6978 (274 7/8)	6975 (274 3/4)	6979 (274 7/8)	7017 (276 5/16)	7050 (277 5/8)	7083 (279)	7121 (280 1/2)	7148 (281 1/2)	7166 (282 1/4)
C dVoff	0 (0)	27 (1 1/8)	48 (1 15/16)	68 (2 3/4)	90 (3 5/8)	112 (4 1/2)	132 (5 1/4)	154 (6 1/8)	175 (7)	197 (7 7/8)	199 (7 7/8)	198 (7 7/8)	199 (7 7/8)	200 (7 7/8)	201 (8)	201 (8)	202 (8)	202 (8)

When using the 270 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	7056 (277 7/8)	7083 (277 7/8)	7104 (279 3/4)	7123 (280 1/2)	7140 (281 1/8)	7155 (281 3/4)	7170 (282 3/8)	7182 (282 7/8)	7193 (283 1/4)	7203 (283 5/8)	7213 (284)	7226 (284 1/2)	7274 (286 1/2)	7313 (288)	7351 (289 1/2)	7392 (291 1/8)	7418 (292 1/8)	7434 (292 3/4)
B Ylens	1924 (75 3/4)	1766 (69 5/8)	1640 (64 5/8)	1514 (59 5/8)	1388 (54 3/4)	1262 (49 3/4)	1136 (44 3/4)	1009 (39 3/4)	883 (34 7/8)	757 (29 7/8)	631 (24 7/8)	505 (20)	381 (15)	255 (10 1/8)	128 (5 1/8)	0 (0)	-129 (-5 1/8)	-260 (-10 1/4)
D TD	7314 (288)	7300 (287 1/2)	7291 (287 1/8)	7282 (286 3/4)	7273 (286 3/8)	7266 (286 1/8)	7259 (285 7/8)	7253 (285 5/8)	7247 (285 3/8)	7243 (285 1/4)	7240 (285 1/8)	7244 (285 1/4)	7284 (286 7/8)	7318 (288 1/8)	7352 (289 1/2)	7392 (291 1/8)	7419 (292 1/8)	7438 (292 7/8)
C dVoff	0 (0)	28 (1 1/8)	50 (2)	71 (2 7/8)	93 (3 3/4)	116 (4 5/8)	137 (5 1/2)	160 (6 3/8)	182 (7 1/4)	204 (8 1/8)	206 (8 1/8)	206 (8 1/8)	207 (8 1/4)	207 (8 1/4)	209 (8 1/4)	209 (8 1/4)	210 (8 3/8)	210 (8 3/8)

When using the 280 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	7314 (288)	7343 (289 1/8)	7364 (290)	7383 (290 3/4)	7401 (291 1/2)	7417 (292 1/8)	7432 (292 5/8)	7445 (293 1/8)	7457 (293 5/8)	7467 (294)	7477 (294 3/8)	7491 (295)	7540 (296 7/8)	7581 (298 1/2)	7620 (300)	7662 (301 3/4)	7690 (302 7/8)	7706 (303 1/2)
B Ylens	1995 (78 5/8)	1831 (72 1/8)	1700 (67)	1569 (61 7/8)	1439 (56 3/4)	1308 (51 1/2)	1177 (46 3/8)	1046 (41 1/4)	916 (36 1/8)	785 (31)	654 (25 3/4)	524 (20 3/4)	395 (15 5/8)	265 (10 1/2)	133 (5 1/4)	0 (0)	-134 (-5 3/8)	-269 (-10 5/8)
D TD	7581 (298 1/2)	7568 (298)	7557 (297 5/8)	7548 (291 1/4)	7540 (296 7/8)	7532 (296 5/8)	7525 (296 3/8)	7518 (296)	7513 (295 7/8)	7508 (295 5/8)	7505 (295 1/2)	7509 (295 3/4)	7551 (297 3/8)	7586 (298 3/4)	7621 (300 1/8)	7662 (301 3/4)	7691 (302 7/8)	7711 (303 5/8)
C dVoff	0 (0)	29 (1 3/16)	52 (2 1/8)	74 (3)	97 (3 7/8)	120 (4 3/4)	142 (5 5/8)	166 (6 5/8)	188 (7 1/2)	212 (8 3/8)	214 (8 1/2)	213 (8 1/2)	214 (8 1/2)	215 (8 1/2)	216 (8 5/8)	216 (8 5/8)	217 (8 5/8)	218 (8 5/8)

When using the 290 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	7573 (298 1/4)	7602 (299 3/8)	7624 (300 1/4)	7644 (301)	7662 (301 3/4)	7679 (302 3/8)	7695 (303)	7708 (303 1/2)	7720 (304)	7731 (304 3/8)	7741 (304 7/8)	7755 (305 3/8)	7807 (307 3/8)	7849 (309 1/8)	7889 (310 5/8)	7933 (312 3/8)	7961 (313 1/2)	7978 (314 1/8)
B Ylens	2065 (81 3/8)	1895 (74 5/8)	1760 (69 3/8)	1625 (64)	1489 (58 5/8)	1354 (53 3/8)	1219 (48)	1083 (42 3/4)	948 (37 3/8)	813 (32 1/8)	677 (26 3/4)	542 (21 3/8)	409 (16 1/8)	274 (10 7/8)	138 (5 1/2)	0 (0)	-139 (-5 1/2)	-279 (-11)
D TD	7849 (309 1/8)	7835 (308 1/2)	7824 (308 1/8)	7815 (307 3/4)	7806 (307 3/8)	7798 (307 1/8)	7791 (306 3/4)	7784 (306 1/2)	7778 (306 1/4)	7773 (306 1/8)	7770 (306)	7774 (306 1/8)	7817 (307 7/8)	7854 (309 1/4)	7890 (310 3/4)	7933 (312 3/8)	7963 (313 5/8)	7983 (314 3/8)
C dVoff	0 (0)	30 (1 3/16)	54 (2 1/4)	76 (3)	100 (4)	124 (5)	147 (5 7/8)	172 (6 7/8)	195 (7 3/4)	219 (8 5/8)	221 (8 3/4)	221 (8 3/4)	222 (8 3/4)	223 (8 7/8)	224 (8 7/8)	224 (8 7/8)	225 (8 7/8)	225 (8 7/8)

When using the 300 inch screen

Unit: mm (inches)

a TA (deg)	15.2°	14°	13°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	7831 (308 3/8)	7861 (309 1/2)	7884 (310 1/2)	7905 (311 1/4)	7924 (312)	7941 (312 3/4)	7957 (313 3/8)	7971 (313 7/8)	7983 (314 3/8)	7994 (314 3/4)	8005 (315 1/4)	8020 (315 3/4)	8073 (317 7/8)	8117 (319 5/8)	8158 (321 1/4)	8203 (323)	8233 (324 1/4)	8250 (324 7/8)
B Ylens	2135 (84 1/8)	1960 (77 1/4)	1820 (71 3/4)	1680 (66 1/4)	1540 (60 3/4)	1400 (55 1/8)	1260 (49 5/8)	1120 (44 1/8)	980 (38 5/8)	840 (33 1/8)	700 (27 5/8)	561 (22 1/8)	423 (16 3/4)	283 (11 1/4)	142 (5 5/8)	0 (0)	-144 (-5 3/4)	-288 (-11 3/8)
D TD	8117 (319 5/8)	8102 (319)	8091 (318 5/8)	8081 (318 1/4)	8072 (317 7/8)	8064 (317 1/2)	8056 (317 1/4)	8049 (317)	8043 (316 3/4)	8038 (316 1/2)	8035 (316 3/8)	8040 (316 5/8)	8084 (318 3/8)	8122 (319 7/8)	8159 (321 1/4)	8203 (323)	8234 (324 1/4)	8255 (325)
C dVoff	0 (0)	31 (1 1/4)	55 (2 1/4)	79 (3 1/8)	103 (4 1/8)	128 (5 1/8)	152 (6)	177 (7)	202 (8)	226 (9)	229 (9 1/8)	228 (9)	229 (9 1/8)	230 (9 1/8)	232 (9 1/4)	232 (9 1/4)	232 (9 1/4)	233 (9 1/4)

1-3. IFB-G70QMG

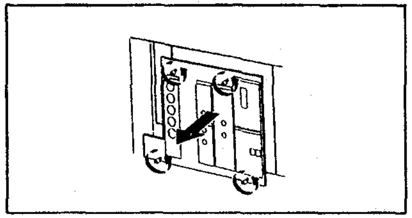
The IFB-G70QMG signal interface board is a PC board to be mounted on Sony VPH-G70QMG Multiscan Projector so that composite video or S video (Y/C) signals from video equipment can be input/output.

Mounting the IFB-G70QMG

Note

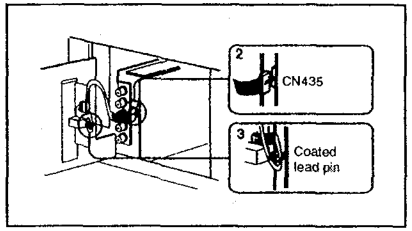
Mounting or removal of the signal interface board must be performed by qualified personnel only.

1 **Loosen the four screws completell and remove the connector panel of the projector.**

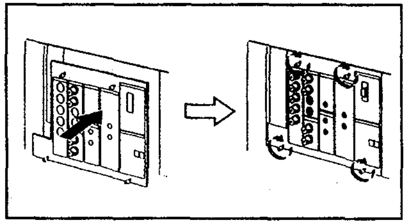


2 **Plug in the connector at the end of the wires threading from the IFB-G70QMG to the CN435 connector of the projector's BA board.**

3 **To prevent the wires from touching the circuit, fix them with the coated lead pin.**

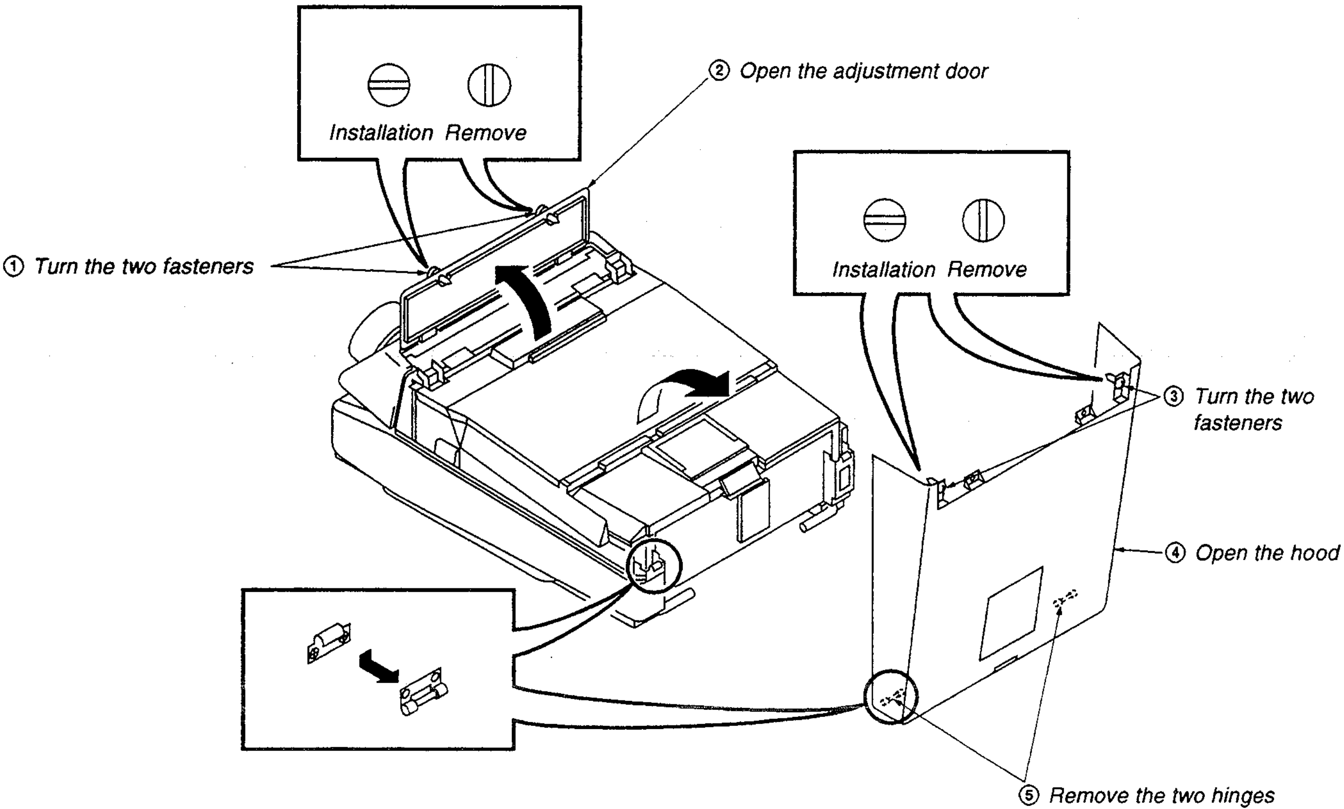


4 **Push in the IFB-G70QMG and tighten the four screws. When removing the IFB-G70QMG, loosen the screws completely and pull it out.**

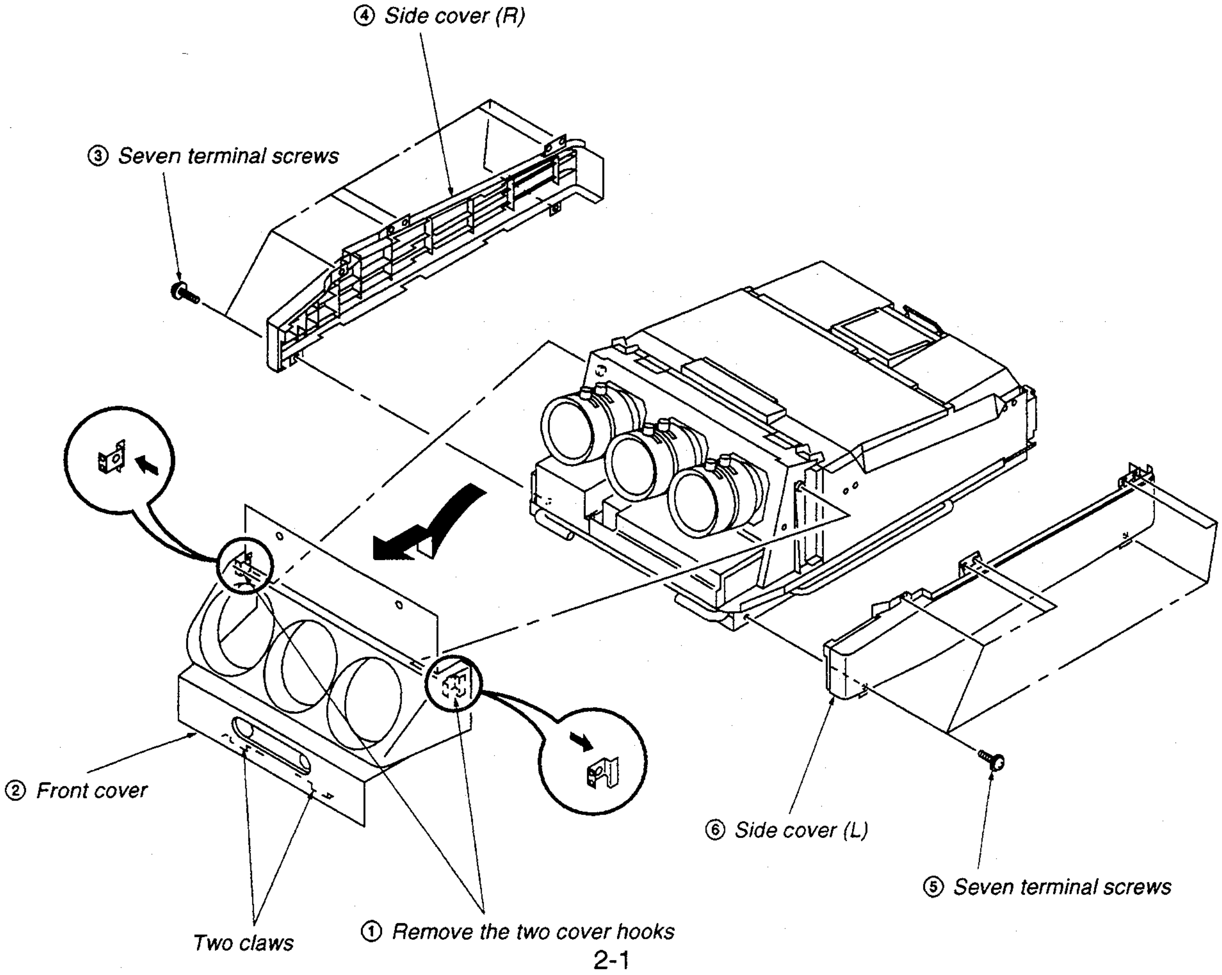


SECTION 2
DISASSEMBLY

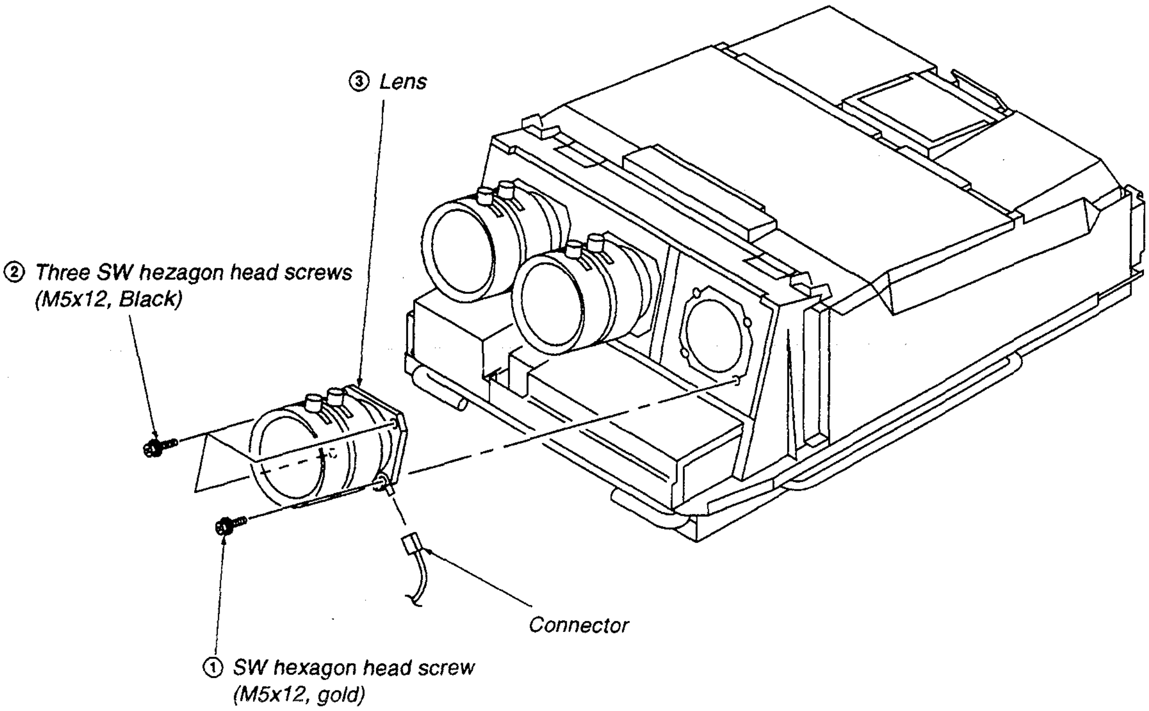
2-1. HOOD REMOVAL


Installation
Remove
② Open the adjustment door
① Turn the two fasteners
Installation
Remove
③ Turn the two fasteners
④ Open the hood
⑤ Remove the two hinges

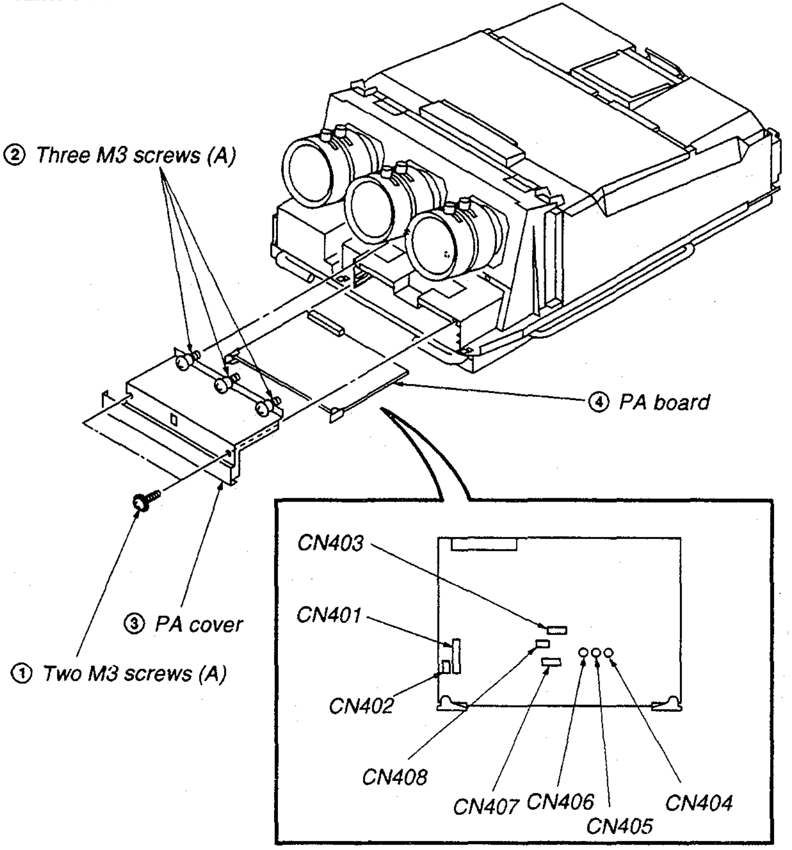
2-2. FRONT COVER AND SIDE COVERS REMOVAL


④ Side cover (R)
③ Seven terminal screws
② Front cover
⑥ Side cover (L)
⑤ Seven terminal screws
Two claws
① Remove the two cover hooks

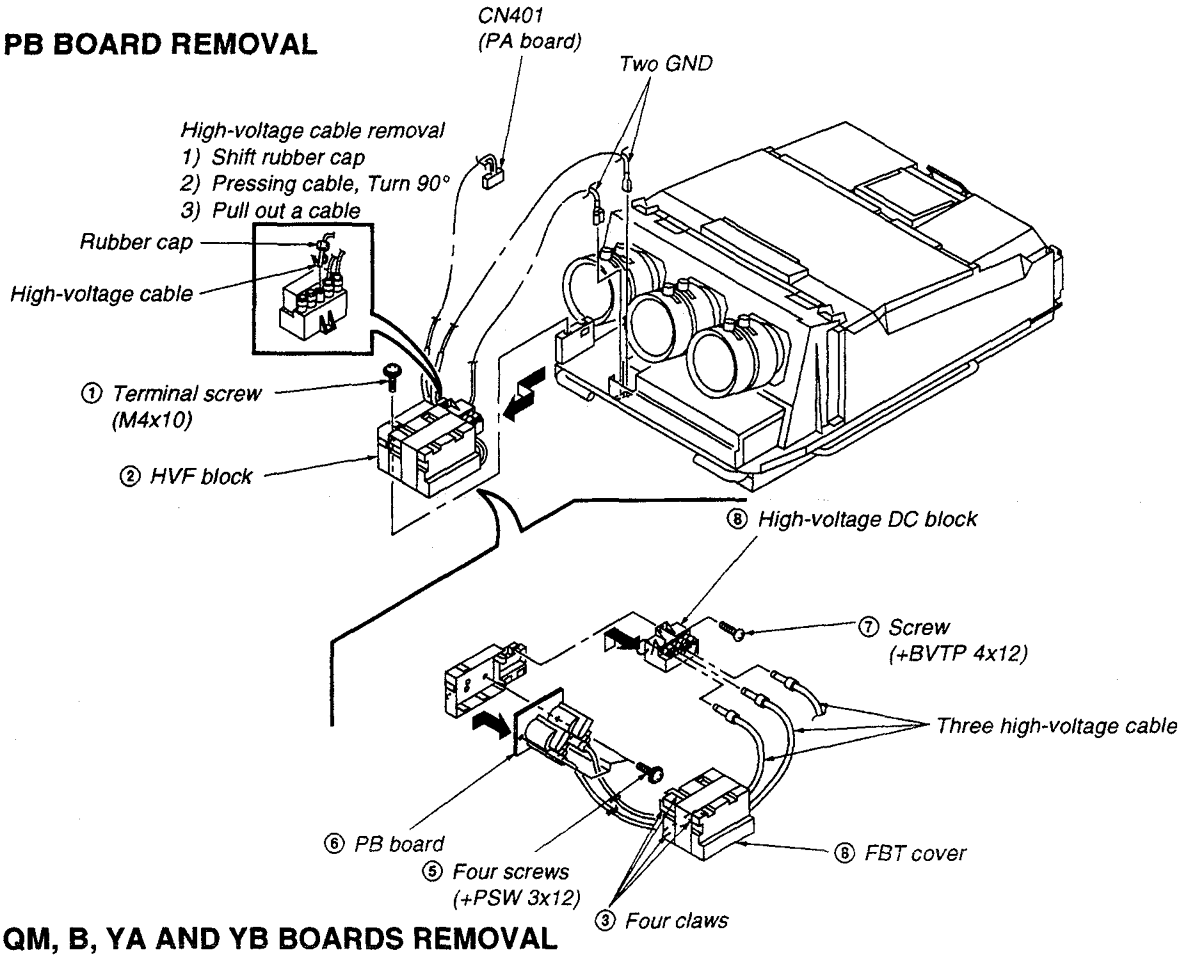
2-3. LENS REMOVAL


③ Lens
② Three SW hezagon head screws (M5x12, Black)
Connector
① SW hexagon head screw (M5x12, gold)

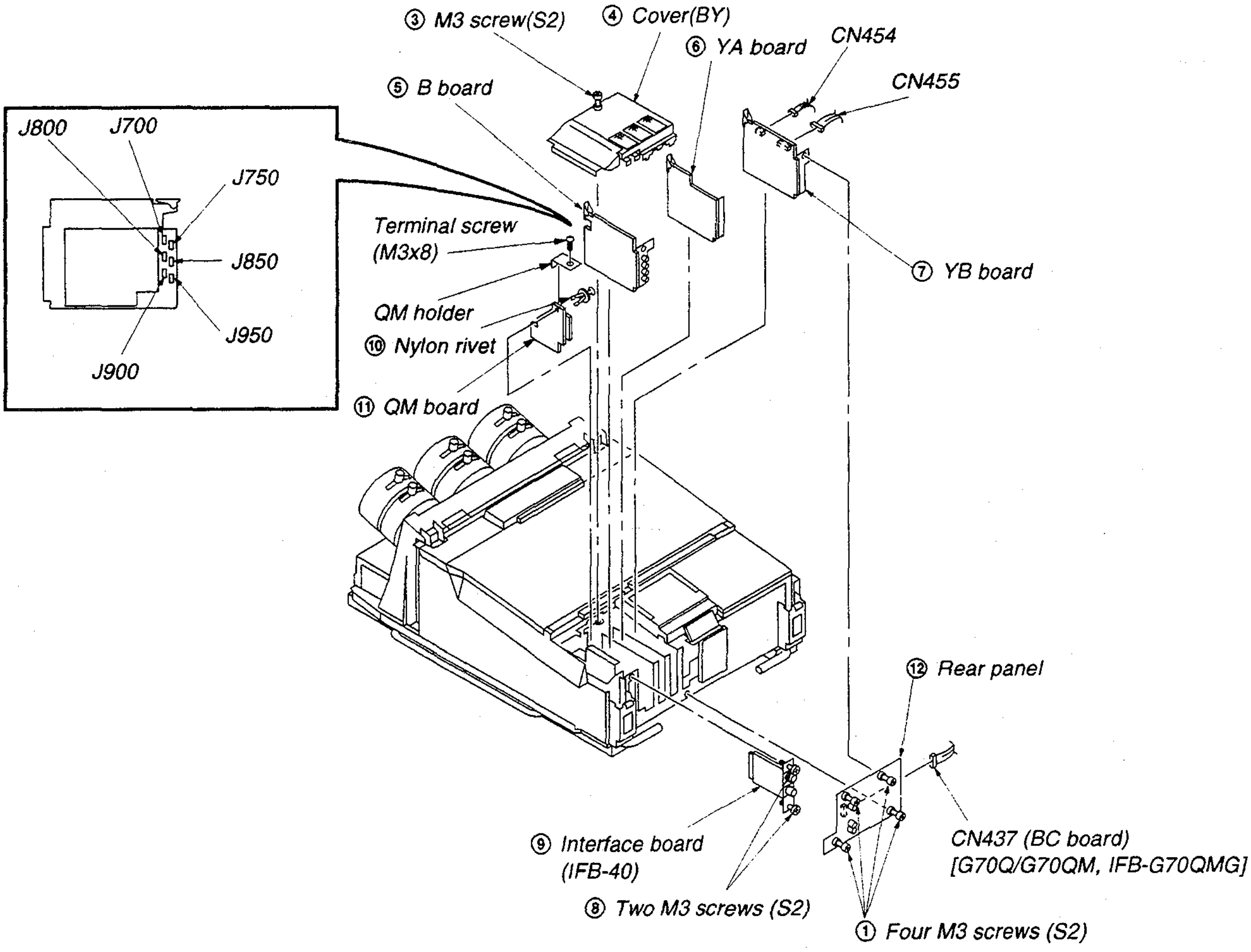
2-4. PA BOARD REMOVAL


② Three M3 screws (A)
④ PA board
③ PA cover
① Two M3 screws (A)
CN403
CN401
CN402
CN408
CN407
CN406
CN405
CN404

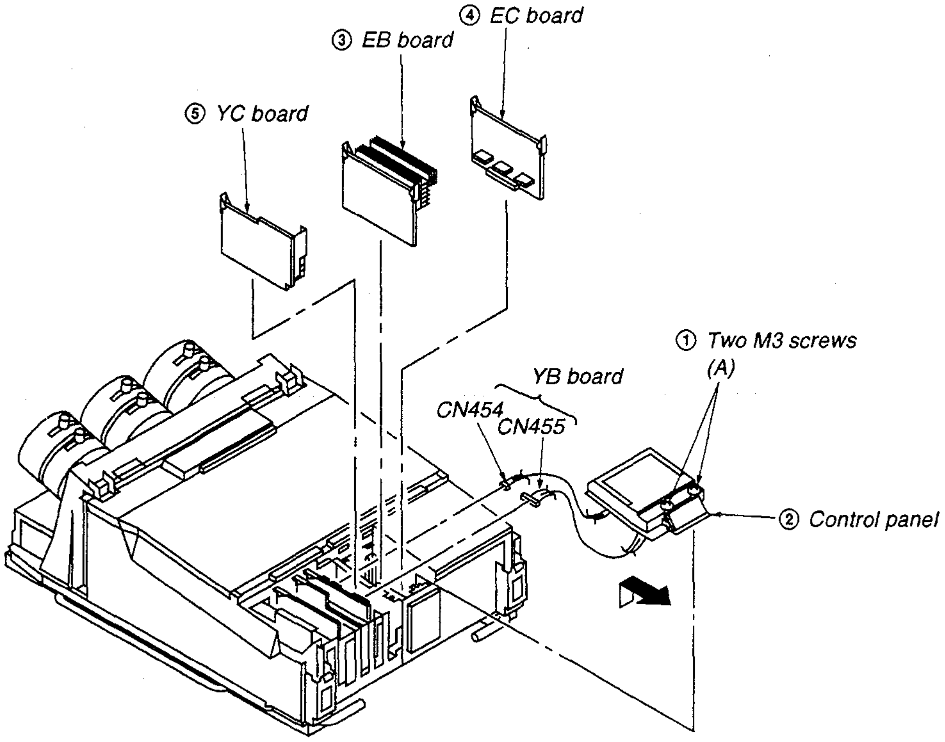
2-5. PB BOARD REMOVAL


CN401
(PA board)
Two GND
High-voltage cable removal
1) Shift rubber cap
2) Pressing cable, Turn 90°
3) Pull out a cable
Rubber cap
High-voltage cable
① Terminal screw
(M4x10)
② HVF block
⑧ High-voltage DC block
⑦ Screw
(+BVTP 4x12)
Three high-voltage cable
⑥ PB board
⑤ Four screws
(+PSW 3x12)
③ Four claws
⑧ FBT cover

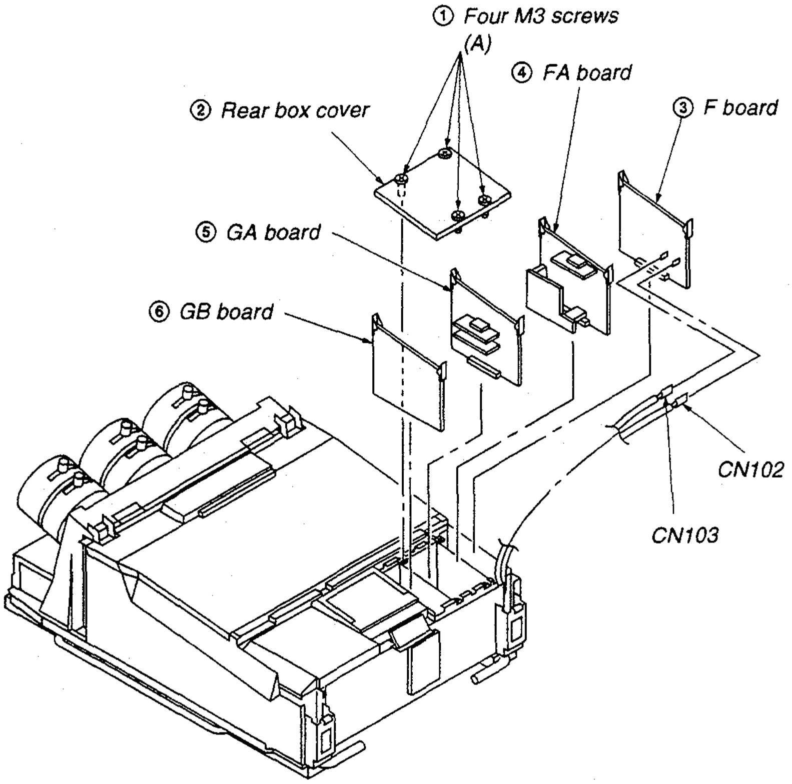
2-6. QM, B, YA AND YB BOARDS REMOVAL


③ M3 screw(S2)
④ Cover(BY)
⑥ YA board
CN454
CN455
⑤ B board
J800
J700
J750
J850
J950
J900
Terminal screw
(M3x8)
QM holder
⑩ Nylon rivet
⑪ QM board
⑦ YB board
⑫ Rear panel
⑨ Interface board
(IFB-40)
⑧ Two M3 screws (S2)
CN437 (BC board)
[G70Q/G70QM, IFB-G70QMG]
① Four M3 screws (S2)

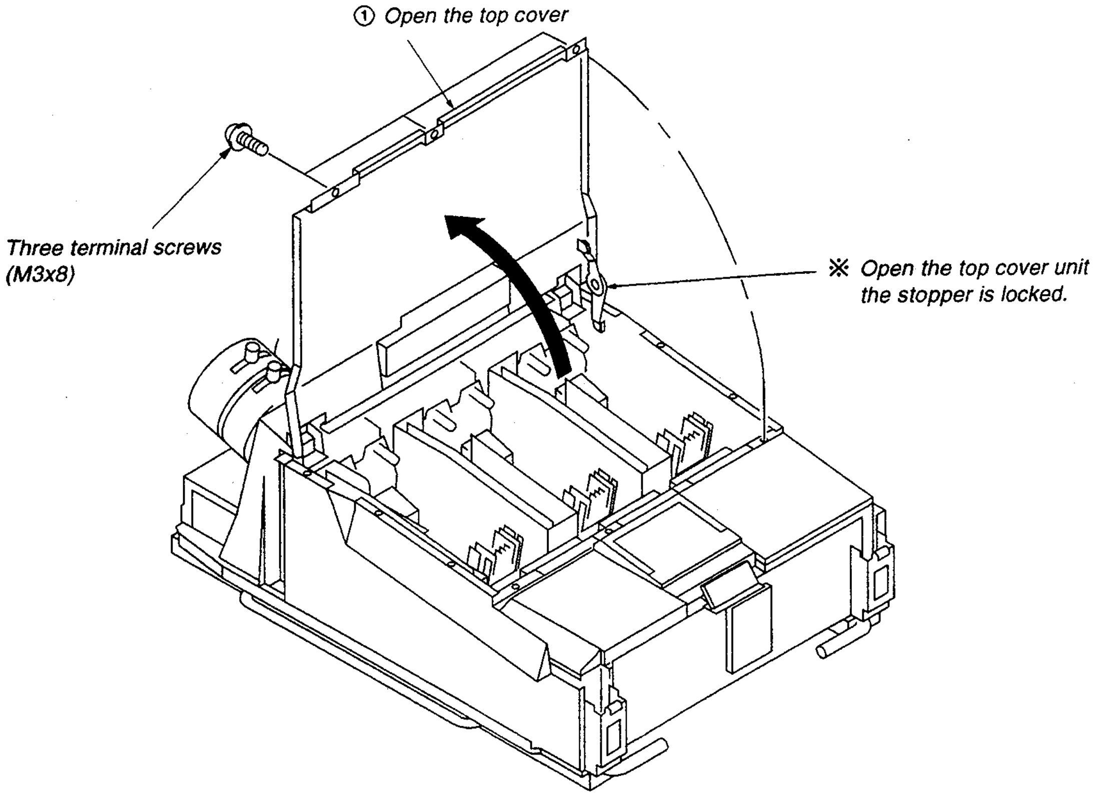
2-7. EB, EC AND YC BOARDS REMOVAL


④ EC board
③ EB board
⑤ YC board
① Two M3 screws
(A)
YB board
CN454
CN455
② Control panel

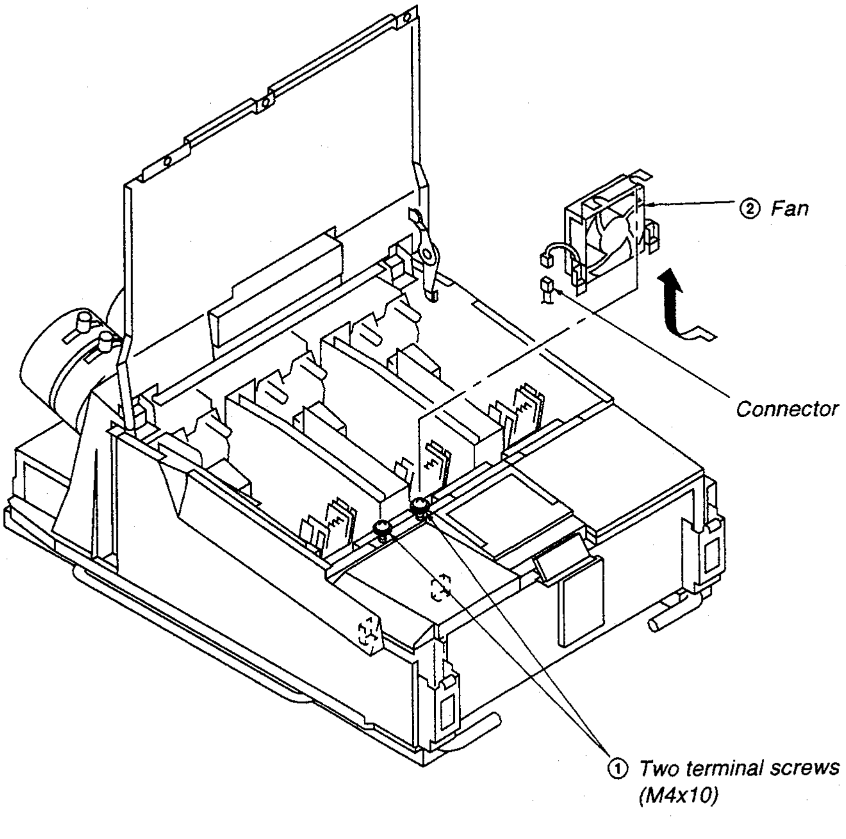
2-8. F, FA, GA AND GB BOARDS REMOVAL


① Four M3 screws
(A)
④ FA board
② Rear box cover
③ F board
⑤ GA board
⑥ GB board
CN102
CN103

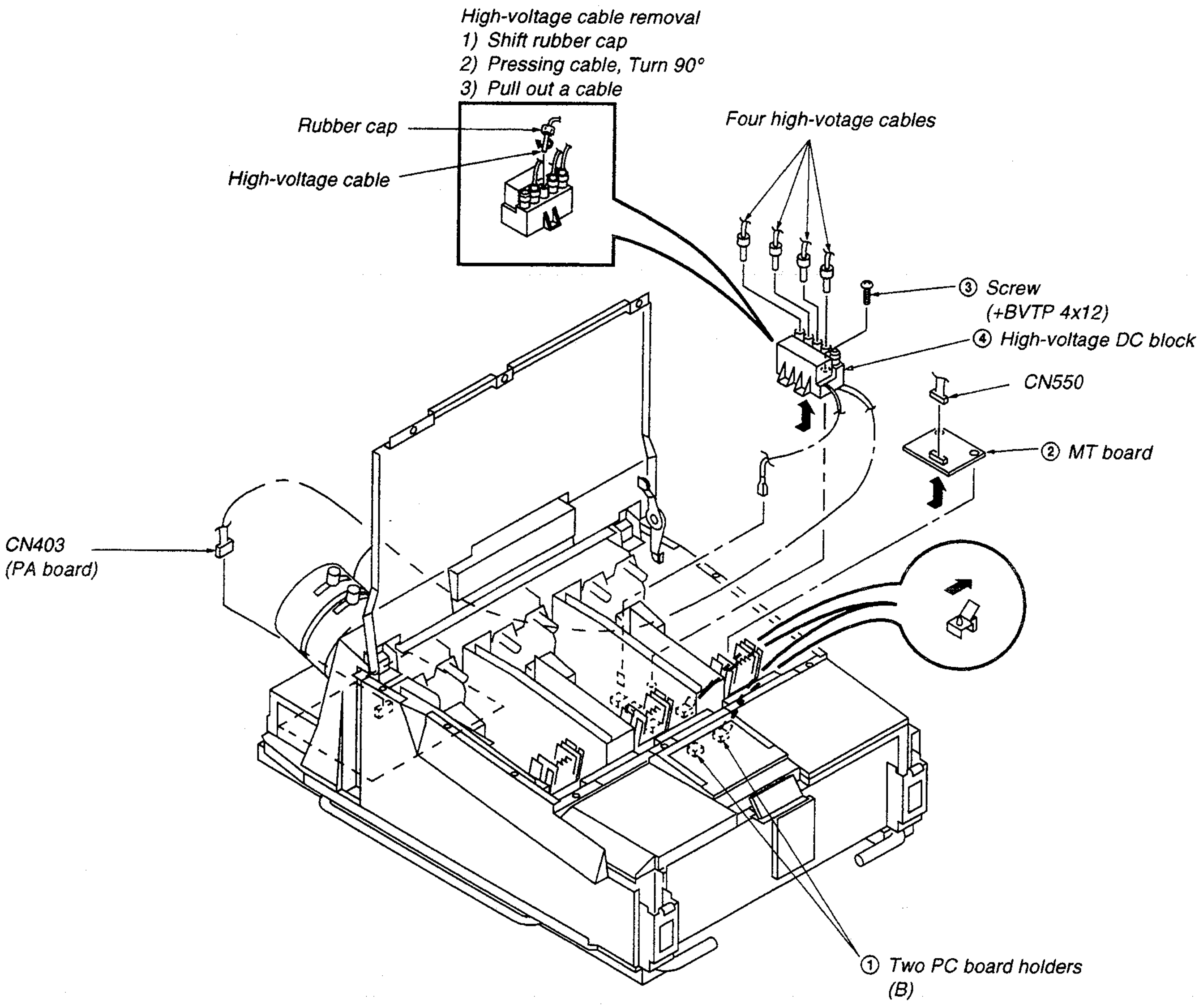
2-9. TOP COVER OPEN


① Open the top cover
Three terminal screws
(M3x8)
※ Open the top cover unit
the stopper is locked.

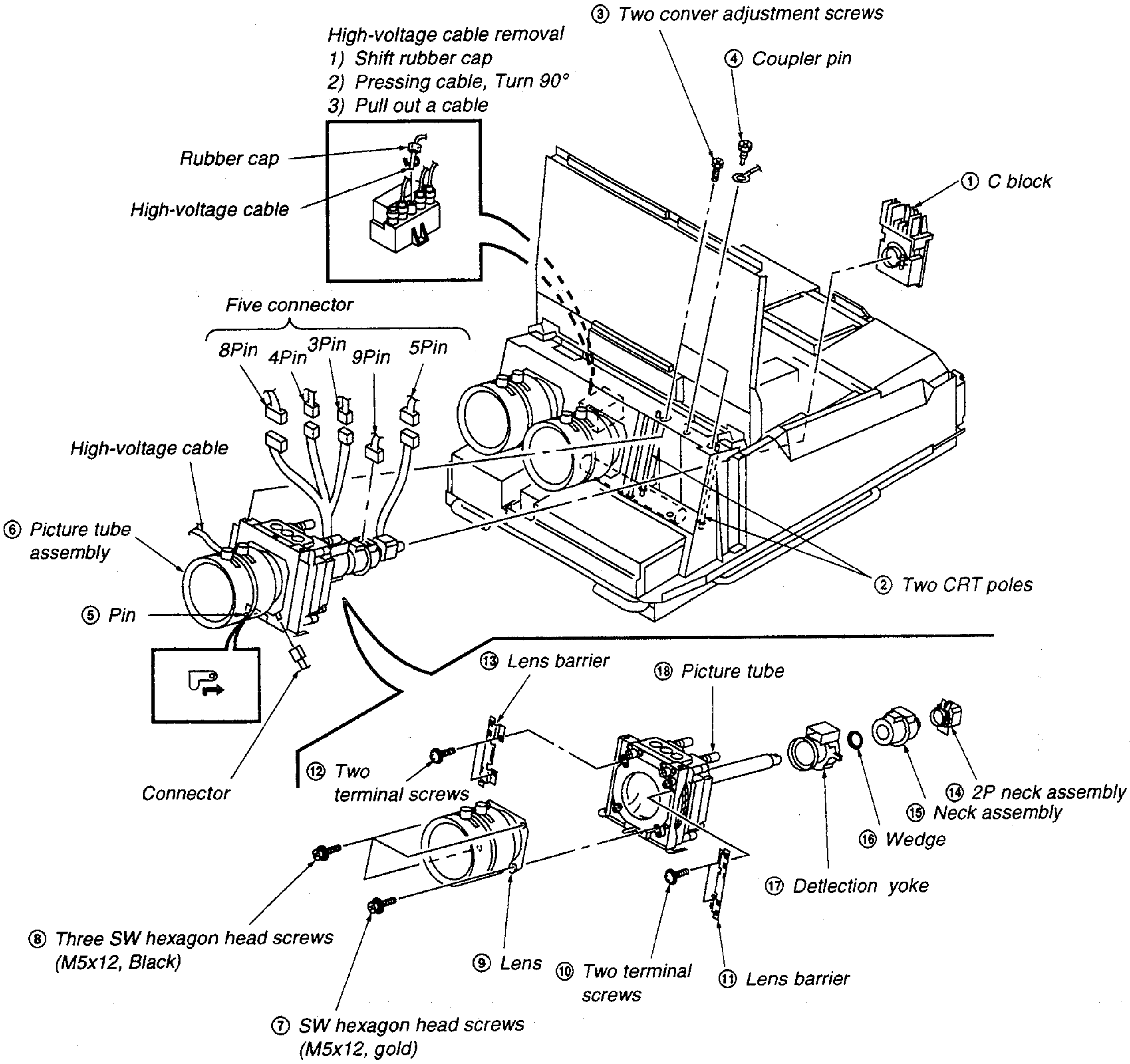
2-10. FAN REMOVAL


② Fan
Connector
① Two terminal screws
(M4x10)

2-11. HIGH-VOLTAGE DC BLOCK AND MT BOARD REMOVAL


High-voltage cable removal
1) Shift rubber cap
2) Pressing cable, Turn 90°
3) Pull out a cable
Rubber cap
High-voltage cable
Four high-votage cables
③ Screw
(+BVTP 4x12)
④ High-voltage DC block
CN550
② MT board
CN403
(PA board)
① Two PC board holders
(B)

2-12. PICTURE TUBE REMOVAL


③ Two conver adjustment screws
High-voltage cable removal
1) Shift rubber cap
2) Pressing cable, Turn 90°
3) Pull out a cable
④ Coupler pin
Rubber cap
High-voltage cable
① C block
Five connector
8Pin
4Pin
3Pin
9Pin
5Pin
High-voltage cable
⑥ Picture tube assembly
⑤ Pin
② Two CRT poles
⑬ Lens barrier
⑱ Picture tube
Connector
⑫ Two terminal screws
⑭ 2P neck assembly
⑮ Neck assembly
⑯ Wedge
⑰ Detlection yoke
⑧ Three SW hexagon head screws (M5x12, Black)
⑨ Lens
⑩ Two terminal screws
⑪ Lens barrier
⑦ SW hexagon head screws (M5x12, gold)

SECTION 3
ADJUSTMENTS

3-1. Basic Adjustments

Note 1: Precautions Upon Adjusting

- When the CRT has been replaced, fix DY, and decide the position of the neck assembly before beginning adjustments.
- The service mode can be exited by turning OFF the power.

1-1. Attaching the Neck Assembly

1. Fix DY to the CRT funnel, and then fix the Mg Focus Coil.
2. Secure the 2-pole and 4-pole magnet assemblies 6 to 8 mm away from the Mg Focus Coil.
3. Attach the C board.

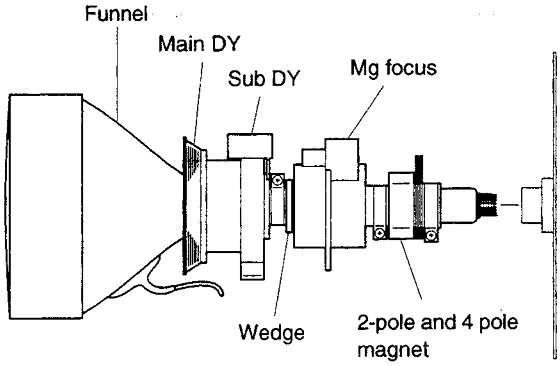

Funnel
Main DY
Sub DY
Mg focus
Wedge
2-pole and 4 pole magnet

Fig. 1

1-2. Adjusting Conditions

1-2-1. Projector

(1) Place the unit on a table which satisfies the projection conditions in Fig. 2.
(See Fig. 2-1, Fig. 2-2, Fig. 2-3.)

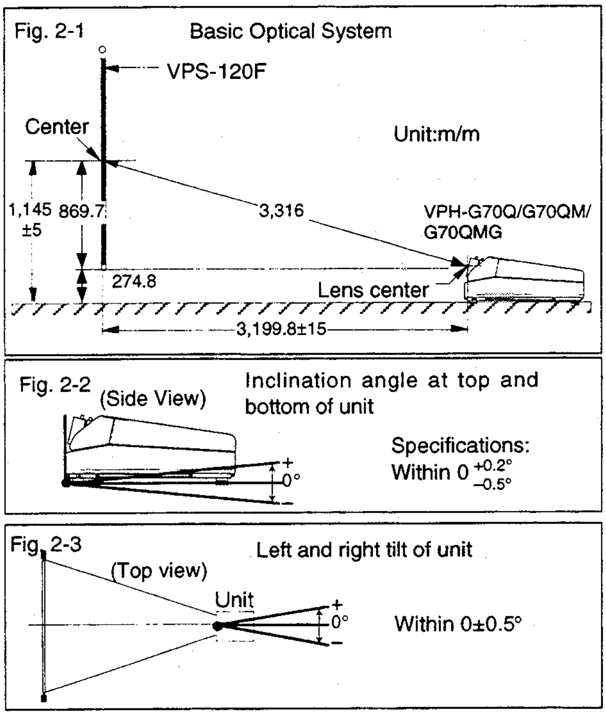


Fig. 2-1
Basic Optical System
VPS-120F
Center
Unit:m/m
1,145 ±5
869.7
3,316
VPH-G70Q/G70QM/ G70QMG
274.8
Lens center
3,199.8±15
Fig. 2-2
(Side View)
Inclination angle at top and bottom of unit
+
0°
Specifications: Within 0 +0.2° −0.5°
Fig. 2-3
(Top view)
Left and right tilt of unit
Unit
+
0°
−
Within 0±0.5°

Fig. 2

1-2-2. CRT Convergence Angle Check

1. Open the top cover, and check that there are adjusting screws in the adjusting hole for the 120-inch screen. (See Fig. 5.)
If, there are no adjusting screws in the 120-inch adjusting hole, adjust as follows.

(1) Turn on the power of the projector.
(2) Set the remote control to the serviceman adjustment mode.
For details, see "Preparation" on page 1-36 (EN).
(3) Reset the green, red and blue centering.
For details, see "Resettting the Data" on page 1-70 (EN).
(4) Make sure that the on-screen display is shown as follows:
   - The center of the green hatch pattern aligns with the horizontal center of the screen.
   - The center of the red and blue hatch patterns align at even intervals from the green hatch pattern.

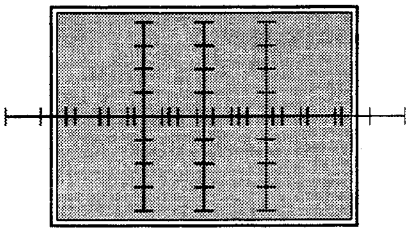


Fig. 3

If the center of the green HATCH pattern does not align with the center of the screen, re-install the projector correctly.

(5) Loosen the two red CRT fixing screws (black) by using the supplied tool. Make sure not to remove the screws.

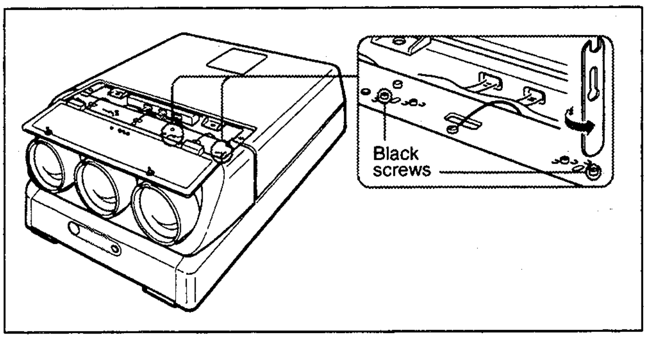

Black screws

Fig. 4

(6) Insert two adjusting screws (two gold screws) in the adjusting hole for the 120-inch screen.

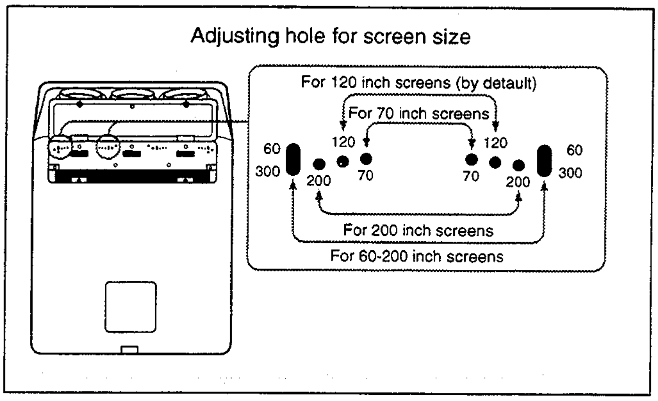


Fig. 5

(7) Tighten the two red CRT fixing screws (black).
(8) Repeat steps (5) to (7) to loosen the two blue CRT fixing screws (black), adjust the blue CRT conversion angle and tighten the two adjustment screws (gold)

1-3. Focus Adjustment

1-3-1. Preparations

(1) Turn ON the MAIN POWER SW (AC ON/OFF), and press the POWER ON key of the remote commander to turn ON the unit.

(2) Continue pressing the RESET key of the remote commander to set the factory data reset state.

RESET key (Press more than 5 seconds)
↓
ALL RESET
↓
ALL RESET MODE
↓
FACTORY RESET

Factory data reset

* The same state as that at shipment is set so that the replaced color can be adjusted.
At the same time, other colors can be checked.

(3) Select INPUT-A in the no-signal state,

(4) Set the serviceman adjusting mode.

ENTER key
↓
ENTER key
↓
▲ key
↓
▼ key
↓
ENTER key

Serviceman adjusting mode

(5) Select P3 (fH=31.5 kHz, fV=60Hz) for the internal oscillation pattern of the service setting menu using the MENU key.

1-3-2. Focus Rough Adjustment

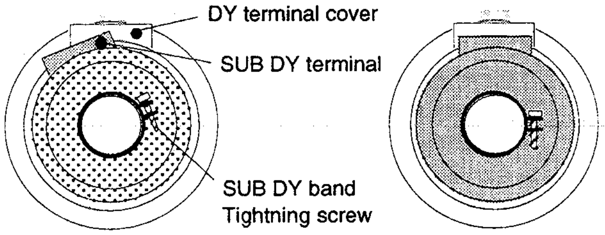
(1) Set INPUT-A to the no-signal state, and select INPUT-A.
(2) Select the ME pattern using the PATTERN key.
(3) Set the color to be adjusted to a single color using the CUT OFF key, and adjust the lens focus roughly.

* The center may not be adjusted correctly when the sub-focus of the lens is not correct.

(4) Press the MG FOCUS of the remote commander, set the MG FOCUS adjustment mode, and select the ME pattern using the PATTERN key.
(5) Roughly adjust the center focus of R, G, and B using ALL.
(6) Repeat steps (3) to (5) and adjust the center focus.

1-3-3. DY Angle Adjustment

(1) Set INPUT-A to the no-signal state, and select INPUT-A.
(2) Press the REGISTRATION CENT key and ADJ G key, and receive the cross-hair pattern.
(3) Press the CUT OFF R and B keys and set green only.
(4) Adjust GREEN DY so that the horizontal cross-hair pattern becomes parallel to the horizontal line of the screen.
(5) Roughly adjust the coil so that the connector part of the GREEN MG FOCUS coil faces up.



CRT Rear

Fig. 6

(6) Adjust the GREEN CENT to the screen center using the remote commander.
(7) Roughly adjust the GREEN H.SIZE, H.LIN, and V.BOW so that the horizontal line at the center becomes straight.
In H.SIZE/LIN adjustment, the screen edge or the 30 to 50 mm marks inside the screen serve as the reference positions. (In order to adjust the DY tilt easily, adjust the external lines of the cross-hatch slightly outside these marks in the H.SIZE adjustment.)
(8) Press the REGISTRATION EW key, and check that the V.SKEW data is "128".

* Adjust to "128" if it is not.

(9) Adjust the GREEN DY angle, adjust the cross-hair horizontal line to the horizontal line on the screen, and secure DY (fine adjustment).

* Use a non-magnetized screwdriver to tighten the screws.
* Fix the DY to the CRT funnel.
* Tightening torque for DY
80 to 120 N.Cm (8.16 to 12.24 kgF.Cm)

(10) After fixing DY, check that the values after adjustment are within the specification.

DY tilt adjustment specifications
* GREEN specifications:
When SKEW adjustments are performed using the remote commander and the GREEN horizontal line is finely adjusted to the horizontal line on the screen, check that the value is within 128±5.

(11) Adjust the RED DY in the same way.

* Press the CUT OFF B key, and receive RED and GREEN.
* Use the GREEN cross-hair as the reference and not the screen horizontal line.
* When adjusting the [RED SIZE] first, set the [RED SIZE] data to 128, and rotate the LV1 (H width coil) of the E board. (Perform a rough adjustment.)

DY tilt adjustment specifications
* RED specifications:
When V.SKEW adjustments are performed using the remote commander to finely adjust and the RED/BLUE horizontal line to the GREEN horizontal line, check that the data value is within 128±5.

(12) Adjust the BLUE DY in the same way as RED.

* Press the CUT OFF G key (or R key), and receive BLUE and RED (or GREEN).
* Use the RED (or GREEN) cross-hair as the reference and not the screen horizontal line.
* When adjusting the [RED SIZE] first, set the [RED SIZE] data to 128, and rotate the LV3 (H width coil) of the E board. (Perform a rough adjustment.)

DY tilt adjustment specifications
* BLUE specifications:
When V.SKEW adjustments are performed using the remote commander to finely adjust the RED/BLUE horizontal line to the GREEN horizontal line, check that the data value is within 128±5.

Note) The DY angle adjustment need only be performed for the replaced color.

1-3-4. MG Focus Coil Angle Adjustment

(1) Set INPUT-A to the no-signal state, select INPUT-A, and select P3 (fH=31.5 kHz, fV=60Hz) for the internal oscillation pattern in the service setting menu.
(2) Press the MG FOCUS key and ADJ G key, and set the MG FOCUS GREEN adjustment mode, and output the dot pattern using the PATTERN key.
(3) Press the CUT OFF R and B keys to set GREEN only.
(4) Set CONTR to MAX using the + key.
(5) Set the FOCUS (G) ALL data to MIN.
(6) Adjust the 4-pole coil so that the dots become round. (The 4PA and 4PD data should be "128".)

* Perform only the replaced color.

(7) Next, set the MG FOCUS (G) 4PA data to MAX.
(8) Adjust the MG FOCUS COIL angle so that the CENTER dots become vertical, and fix it.

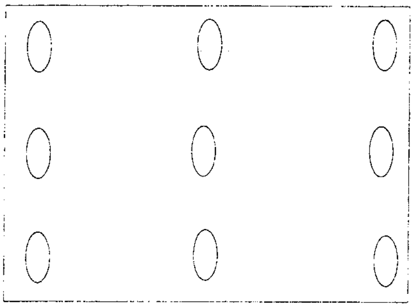


Fig. 7

* Use a non-magnetized screwdriver to tighten the screws.
* Fix the Mg Focus coil at the rear of the DY.
* Tightening torque for Mg FOCUS band
80 to 120 N.Cm (8.16 to 12.24 kg.Cm)

(11) Return the 4PA and 4PD data back to 128.
(12)Output the ME signal using the PATTERN key, and roughly adjust FOCUS ALL.
(13)Adjust RED and BLUE in the same way.
Pressing the MG FOCUS key further in the RED, BLUE FOCUS mode sets the DEFOCUS mode (displayed on the screen) in which focus will not work. In this case, exit the DEFOCUS mode.
(Press the MG FOCUS key again.)
(14) Return the CONTR back to 80.
(15) Press the MEMORY key to memorize this.

1-3-5. 31.5 kHz Signal Registration Rough Adjustment

(1) Set INPUT-A to the no-signal state, select INPUT-A, and select P3 (fH=31.5 kHz, fV=60Hz) for the internal oscillation pattern in the service setting menu.
(2) Press the REGISTRATION CENT key and ADJ G key, and set the CENT GREEN adjustment mode, and press the CUT OFF R and B keys to set GREEN only.
(3) Adjust the GREEN center to the screen center using the ◀, ▶, ▼, or ▲ arrow key.
(4) Press the REGISTRATION key and set the SIZE GREEN adjustment mode, and roughly adjust H. SIZE and V.SIZE.

* If the linearity has deviated, adjust it while adjusting the SIZE and LIN tracking.
* Adjust the external circumference of the GREEN test signal to the 30 to 50 mm position inside the screen or to the specified marker. (Same for below)

(5) Press the REGISTRATION key and set the KEY adjustment mode, and roughly adjust H.KEY and V.KEY.
(6) Press the REGISTRATION key and set the BOW adjustment mode, and roughly adjust H.BOW and V.BOW.
(7) Press the REGISTRATION SKEW key, set the SKEW adjustment mode, and roughly adjust H SKEW and V SKEW.
(8) Press the REGISTRATION key and set the PIN adjustment mode, and roughly adjust H.PIN and V.PIN.
(9) Press the ADJ B key and set the REC adjustment mode.
(10) Press the CUT OFF B key to set RED and GREEN only.
(11) Roughly adjust RED CENT, SIZE, LIN, BOW, SKEW, PIN and KEY in the same way.

* Adjust the RED signal to the GREEN signal.

(12) Roughly adjust BLUE in the same way.

* Adjust the BLUE signal to RED (or GREEN signal).

(13) Continue pressing the MEMORY key to set STANDARD DATA SAVE.
(14) Press the NORMAL key and exit the adjustment mode.
(15) Press the PATTERN key to output the cross-hatch, and check that the RED, GREEN, and BLUE registration have been adjusted roughly.

* If the three colors R, G, and B are not output, press the CUT OFF key and output all the colors.

1-3-6. 2/4-pole Mg Adjustment (Center Adjustment)

(1) Set INPUT-A to the no-signal state, select INPUT-A, and select P3 (fH=31.5 kHz, fV=60Hz) for the internal oscillation pattern in the service setting menu.
(2) Press the MG FOCUS key and ADJ G key, and set the MG Focus GREEN adjustment mode, and press the CUT OFF R and B keys to set GREEN only.
(3) Set CONTR to MAX using the CONTR (+) key.
(4) Press the PATTERN key once, and output the DOT-HATCH pattern.
(5) Increase the ALL data, and output flare into the surrounding HATCH.
(6) Look at the core of the center, and adjust 2PH and 2PV so that the luminance line comes to the center of the flare using the ◀, ▶ arrow key.
(7) Decrease the ALL data, and increase the size of the dots.
(8) Adjust the 4-pole magnet at the CRT neck, so that the dots become dead-round.
(The 2-pole coil must be attached closely to FOCUS.)

* Do not adjust 4PA and 4PD using the remote commander here.

(9) Adjust 2PH and 2PV, 4-pole MG two or three times while adjusting the tracking.
(10) Adjust in the same way for RED and BLUE.
(Note down the 2PH and 2PV data in the same way.)
(11) Continue pressing the MEMORY key to set STANDARD DATA SAVE.
(12) Return the CONTR data back to 80.
(13) Roughly adjust the R, G, and B centering again.
(14) Press the MEMORY key and save the DATA.

2/4-pole Mg adjustment

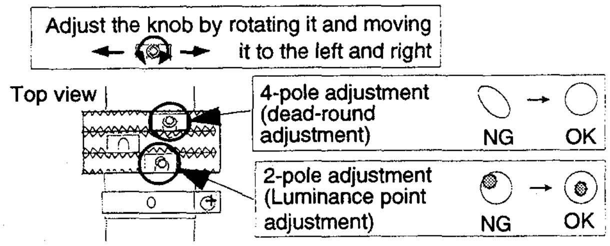

Adjust the knob by rotating it and moving
it to the left and right
Top view
4-pole adjustment (dead-round adjustment)
NG
OK
2-pole adjustment (Luminance point adjustment)
NG
OK
0

Fig. 8

1-3-7. Zenith Angle Adjustment

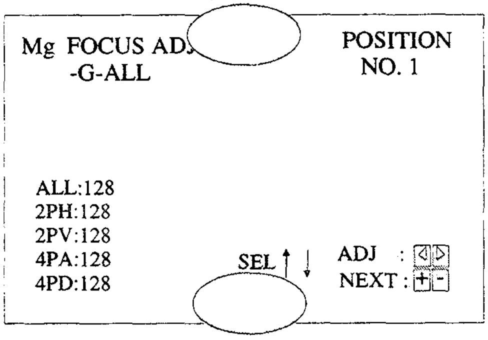
(1) Set INPUT-A to the no-signal state, select INPUT-A, and select P3 (fH=31.5 kHz, fV=60Hz) for the internal oscillation pattern in the service setting menu.
(2) Cover the GREEN lens with a lens cap for MG FOCUS.

(Cap for MG FOCUS adjustment:
Cap with a open center to eliminate
the flare around the lens.)

Fig. 9

(3) Press the FG FOCUS key and ADJ G key, and set the MG FOCUS GREEN adjustment mode, and press the CUT OFF R and B keys to set GREEN only.

<Top of center>



Mg FOCUS ADJ
-G-ALL

POSITION
NO. 1

ALL:128
2PH:128
2PV:128
4PA:128
4PD:128

SEL ↑ ↓

ADJ : ◁▷
NEXT : ⊞⊟

<Bottom of center>

Fig. 10

(4) Press the PATTERN key several times, and output the ME pattern.
(5) Roughly adjust the POSITION-No.1 ALL FOCUS and POSITION 2, 3, 4, 5 MG, AQP, DQP.
(6) Remove the MG FOCUS lens cap.
(7) Roughly adjust the lens corner focus using the ME pattern.

* If the center focus is not precisely adjusted, adjust it again.
* The pattern need not be ME.

(8) Set the ME pattern, look at the bottom part at the center of the screen, and adjust the center focus of the lens at this part to optimum.

(9) Next, look at the top part at the center of the screen, rotate the lens center focus to the left, and check if there exists a position at which the lens focus becomes optimum.
If such a position exists, take the point as "left".
If no such position exists, adjust the focus at the bottom part precisely again, look at the top part, rotate the lens center focus to the right, and check if such a point exists.
Take the point as "right".

Zenith angle adjustment specification:
Adjust the main lens focus precisely at the bottom part at the center (or top part). At this time, the precise focus point should be within the 50 mm from the screen towards the unit.

* If the focus point is at the far end of the screen, change the measuring point (change to bottom if at the top and vice versa) so that the focus point comes to the front of the screen.

(10) Adjust the focus at the bottom part precisely again.
(11) Rotate the zenith angle adjustment nut (V) in the same direction as the direction obtained in (9) so that the focus at the top and bottom becomes the same.

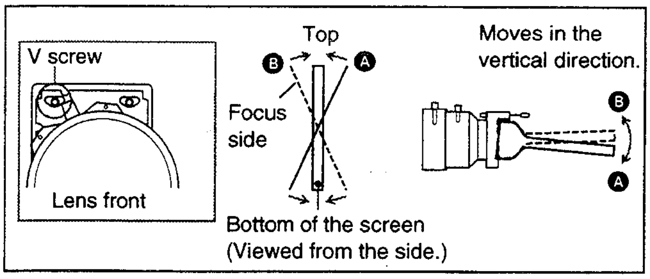
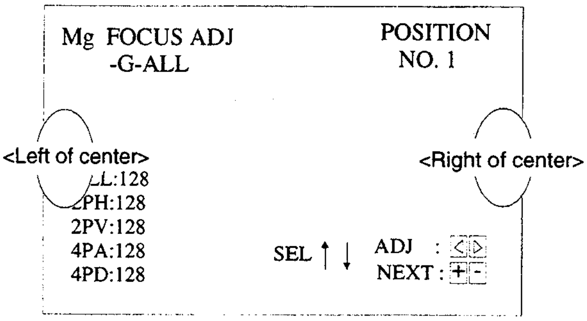


Fig.11

(12) Adjust the focus at the bottom part precisely, check that the focus at the top part is within the reference value. If it is not, adjust in the same way again.

(13) Perform the H zenith adjustment in the same way as (3).


Mg FOCUS ADJ
-G-ALL

POSITION
NO. 1

LL:128
2PH:128
2PV:128
4PA:128
4PD:128

SEL ↑ ↓
ADJ : ◁▷
NEXT : +-

Fig.12

(14) Set the ME pattern, look at the left part at the center of the screen, and adjust the lens center focus at this part so that it becomes optimum.
(15) Next, look at the right part at the center of the screen, rotate the lens center focus to the left, and check if there exists a position at which the lens focus becomes optimum.
If such a position exists, take the point as "left".
If no such position exists, adjust the focus at the left part precisely again, look at the right part, rotate the lens center focus to the right, and check if such a point exists.
Take the point as "right".
(16) Adjust the focus of the left part precisely again.
(17) Rotate the zenith angle adjustment nut (V) in the same direction as the direction obtained in (15) so that the focus at the left and right becomes the same.

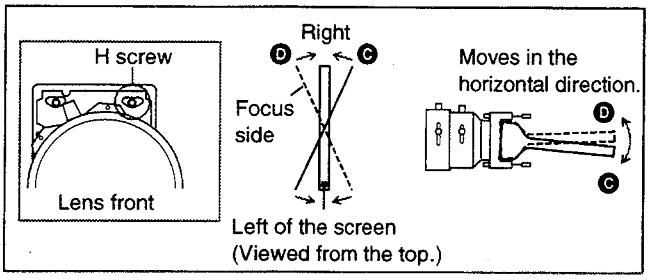


Fig.13

(18) Adjust the focus at the left part precisely, and check that the focus at the right part is within the reference value. If it is not, adjust in the same way again.

Zenith angle adjustment specification:
Adjust the main lens focus precisely at the left part at the center (or right part). At this time, the focus point should be within the 50 mm from the screen towards the unit.

* If the focus point is at the far end of the screen, change the measuring point (change to left if at the right and vice versa) so that the focus point comes to the front of the screen.

(19) After the above, roughly adjust the lens focus at the center of the screen again.
(20) Adjust in the same way as GREEN for RED and BLUE.

* Take note that in the MG Focus rough adjustment of RED and BLUE, pressing the MG FOCUS key twice will set the DEFOCUS mode. (If this mode is set accidentally, pressing the key another time will set back the normal FOCUS mode.)

1-3-8. VIDEO Size Adjustment

(1) Press the INPUT SELECT VIDEO key, and input the NTSC monoscope signal.
(2) Press the CUT OFF R and B keys to set GREEN only.
(3) Press the MG FOCUS key and ADJ G key, and set the Mg FOCUS GREEN adjustment mode, and roughly adjust the GREEN center focus (MG-ALL).
(4) Press the REGISTRATION CENT key and ADJ G key, set the GREEN adjustment mode, and adjust the hatch center to the screen center.
(5) Press the RGB SHIFT key to set the RGB SHIFT adjustment mode, and input the monoscope signal.
Press the CUT OFF R and B keys to set GREEN only.
Adjust the monoscope center to the screen center by SHIFT adjustment.
(6) Press the REGISTRATION SIZE key and set the SIZE GREEN adjustment mode. Then press the PATTERN key several times to input the monoscope signal, move the left and right edges of the monoscope near the screen edge, press the REGISTRATION LIN key to set the LIN adjustment mode, and adjust the linearity.

* Press the CUT OFF R and B keys to set GREEN only.

(7) Repeat the SIZE and LIN adjustment (and CENT adjustment), and adjust the left and right edges of the monoscope to the screen edge.

* To change the linearity considerably in H.LIN adjustment, perform the CENT adjustment again.

(8) Press the RGB SIZE key, and set the H.SIZE data (Hc) to 238 to 242.

(9) Press the MEMORY key.

(10) Adjust RV104 of the E board, and set the H size of the monoscope to 16 frames.

H.SIZE Adjustment Specifications of Monoscope
H size...16±0.15 frames
(Note:V size...12±0.15 frames)

Note) This adjustment need not be performed when colors other than green have been replaced.

1-3-9. HWC (H Width Coil) Adjustment

(1) Set INPUT-A to the no-signal state, select INPUT-A, and select P3 (fH=31.5 kHz, fV=60Hz) for the internal oscillation pattern in the service setting menu.
(2) Press the REGISTRATION CENT key and ADJ G key to set the CENT GREEN adjustment mode, and press the CUT OFF R and B keys to set GREEN only.
(3) Adjust the GREEN center to the screen center. If already adjusted, this is not necessary.
(4) Press the REGISTRATION SIZE key to set the SIZE GREEN adjustment mode, adjust the H.SIZE, move the left and right edges of the test pattern near the screen edge. Then press the REGISTRATION LIN key and set the LIN adjustment mode, and adjust the linearity.
(5) Repeat the SIZE and LIN adjustment, and adjust the left and right edges of the test pattern to the screen edge.
(If necessary, adjust CENT again.)
(6) Press the REGISTRATION CENT key and ADJ R key to set the CENT RED adjustment mode, and cut off BLUE using the CUT OFF keys.
(7) Adjust the RED center to the GREEN center (not necessary if already adjusted).
(If necessary, adjust CENT again.)
(8) Move onto the SIZE and LIN adjustments, and adjust the RED left and right edges of the test pattern to GREEN.)
(9) Adjust the RED H.SIZE data to 128.
(10) Adjust RED HWC (LV1) of the E board, and adjust the RED left and right edges to GREEN.
(If necessary, adjust [LIN]+[R] as well.)
(11) Adjust BLUE HWC of the E board (LV3) in the same way for BLUE.

1-3-10. MG FOCUS Adjustment for 31.5 kHz Signal

(1) Press the INPUT-A key, and receive the 31.5 kHz INT.OSC.

(2) Press the REGISTRATION CENT key and ADJ G key, and set the CENT G adjustment mode, and press the CUT OFF R and B keys to set GREEN only.

(3) Check that the GREEN center is adjusted to the screen center (if it is not, adjust again).

(4) Press the REGISTRATION SIZE key and set the SIZE adjustment mode, and adjust the H.SIZE again.

(5) Press the PATTERN key and output the cross-hatch pattern, and check that the image distortion has been roughly adjusted (if it has not, adjust it again).

(6) Press the MG FOCUS key to set the MG Focus adjustment mode, and press the PATTERN key several times to output the ME pattern.

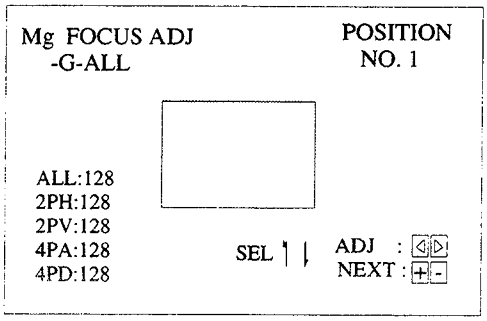

Mg FOCUS ADJ
-G-ALL
POSITION
NO. 1
ALL:128
2PH:128
2PV:128
4PA:128
4PD:128

Fig. 14

(7) Perform the POSITION-No.1 adjustment so that the ME pattern at the center becomes the optimum focus.
(The corner focus should have been roughly adjusted in 1-4-2). (Refer to page 3-2.)

(8) Adjust the GREEN main lens, and adjust the center focus to optimum.

(9) Cover the lens with the focus adjustment lens cap.

(Cap for MG FOCUS adjustment:
Cap with a open center to eliminate the flare around the lens.)

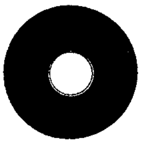


Fig. 15

(10) Adjust P1-All again.

(11) Press the POSITION [+] key and set the POSITION-No.2 adjustment mode.

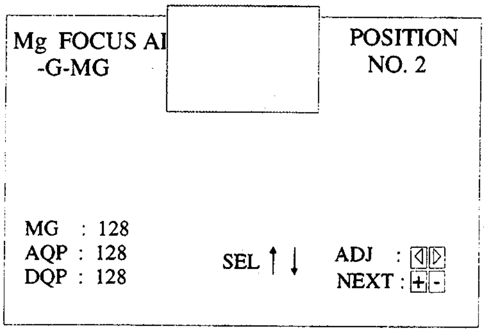

Mg FOCUS AI
-G-MG
POSITION
NO. 2
MG : 128
AQP : 128
DQP : 128

Fig. 16

(12) Press the MG FOCUS key and set the MG FOCUS adjustment mode, and and adjust so that the focus of the ME pattern at the top becomes optimum.

(13) Set the AQP adjustment mode using the ▼ and ▲ keys, and adjust to the optimum focus in the same way.

(14) Set the DQP adjustment mode using the ▼ and ▲ keys, and adjust to the optimum focus in the same way.

(15) Repeat steps (12) to (14) several times, and adjust to the optimum focus while adjusting the tracking.

(16) Press the POSITION [+] key and set the POSITION-No.3 adjustment mode.

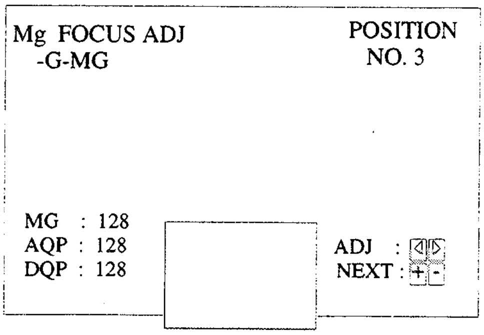

Mg FOCUS ADJ
-G-MG
POSITION
NO. 3
MG : 128
AQP : 128
DQP : 128

Fig. 17

(17) Adjust in the same way as the POSITION-No.2 adjustment.

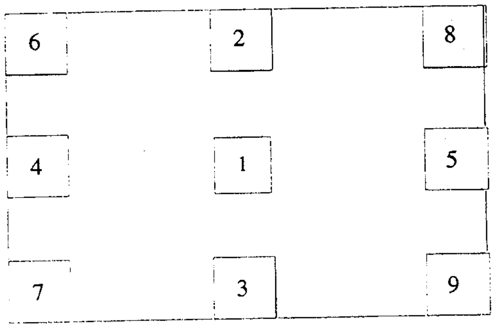
(18) Adjust in the same way for POSITION-No.4 to POSITION-No.9.

(19) Press the MEMORY key, and memorize them.

(20) Perform the MG FOCUS adjustment of RED and BLUE in the same way as GREEN.

(21) After the adjustment, perform standard data save.

* Check the centering and image distortion.
* MG-FOCUS P1-All adjustment and lens adjustment.
* POSITION No.2 to POSITION No.9 MG FOCUS, and AQP and DQP adjustments.
* Memorize them.



* The numbers indicate the POSITION during AQP and DQP adjustments.

Fig. 18

1-3-11. VIDEO Block MG FOCUS Adjustment

(1) Press the INPUT SELECT VIDEO key, and input the NTSC monoscope signal.

(2) Press the MG FOCUS key and ADJ G key, and set the GREEN MG FOCUS adjustment mode, and press the CUT OFF R and B keys to set GREEN only. Roughly adjust ALL FOCUS at POSITION-No.1.

(3) Roughly adjust GREEN CENT, SIZE, LIN, BOW, SKEW, PIN, and KEY.

(4) Perform the rough adjustments in (2) and (3) for RED and BLUE as well.

(5) Set the MG FOCUS GREEN adjustment mode, and press the CUT OFF R and B keys to set GREEN only.

(6) Press the CONTR + key and set the CONTR to MAX.

(7) Increase the ALL data, and output flair.

(8) Press the PATTERN key, and output the OUT-HATCH pattern.

(9) Adjust 2PH and 2PV with the arrow ◀ and ▶ keys, and adjust so that the bright line comes to the center of the flair.

(10) Decrease the ALL data, and increase the size of the dots.

(11) Adjust 4PA and 4PD so that the dots become dead-round.

(12) Return the CONTR data back to 80.

(13) Roughly adjust the GREEN centering again.

(14) Cover the lens with a lens cap for MG FOCUS adjustment, and finely adjust the focus of POSITION-No.1.

* The lens need not be adjusted.

(13) Using the same method as in "1-3-10. 3.15 kHz MG FOCUS Adjustment", adjust the Green MG FOCUS, AQP, and DQP of "POSITION-No.2" to "POSITION-No.9" of the VIDEO signal block (15 kHz).

(14) Adjust RED and BLUE in the same way as above.

1-3-12. Adjustment of Other Frequencies

(1) Input the following frequencies to INPUT A, and perform the same adjustment as the "1-3-11. VIDEO Block MG FOCUS Adjustment".

fH=24 kHz, 48 kHz, 64 kHz, 75 kHz, 93 kHz, 106 kHz.

1-4. Registration Adjustment

1-4-1. INPUT MEMORY NO. 0 Adjustment

(1) Input the VIDEO monoscope signal to VIDEO IN.

For VPH-G70QMG, set INPUT-A to the no-signal state, and select P1 (fH=15.7 kHz, fV=60Hz) for the internal oscillation pattern in the service setting menu.

(2) Press the BLKG key, and move the blanking at the top outside the effective screen using the ▲ arrow key.
(3) Press the POSITION + key, and move the blanking at the bottom outside the effective screen using the ▼ arrow key.
(4) Press the POSITION + key, and move the blanking at the left outside the effective screen using the ◀ arrow key.
(5) Press the POSITION + key, and move the blanking at the right outside the effective screen using the ▶ arrow key.
(6) Press the MEMORY key.
(7) Press the REGISTRATION CENT key, and set the GREEN adjustment mode using the ADJ G key.
(8) Adjust the vertical lines and horizontal lines to the center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(9) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(10) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE, and adjust to the respective specified values using the arrow keys.
(Up to 21 blocks.)

* When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.
* During the adjustment, adjust SIZE if it has deviated.

(11) Press the MEMORY key.
(12) Press the REGISTRATION CENT key and ADJ R key, and set the RED adjustment mode, and adjust so that the RED vertical and horizontal lines come to the GREEN center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(13) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(14) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE, and adjust to the respective specified values using the arrow keys.
(Up to 21 blocks.)

* When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.
* During the adjustment, adjust SIZE and CENTER if they have deviated.

(15) Press the MEMORY key.
(16) Adjust BLUE in the same way, and press the MEMORY key.

1-4-2. INPUT MEMORY NO. 1-7 Adjustment

(1) Press the INPUT-A key, and select the INT.OSC PATTERN.

INC. OSC PATTERN	fH	fV	H/C	V	SonG
2	24.83	56.42	NEG	NEG	—
3	31.47	59.94	NEG	NEG	—
4	48.36	59.99	—	—	NEG
5	63.98	60.02	POS	POS	—
6	75.00	60.00	POS	POS	—
7	93.75	75.00	POS	POS	—
8	106.25	85.00	POS	POS	—

(2) Press the BLKG key, and move the blanking at the top outside the effective screen using the ▲ arrow key.
(3) Press the POSITION + key, and move the blanking at the bottom outside the effective screen using the ▼ arrow key.
(4) Press the POSITION + key, and move the blanking at the left outside the effective screen using the ◀ arrow key.
(5) Press the POSITION + key, and move the blanking at the right outside the effective screen using the ▶ arrow key.
(6) Press the MEMORY key.
(7) Press the REGISTRATION CENT key and ADJ G key, and set the GREEN adjustment mode.
(8) Adjust the vertical lines and horizontal lines to the center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(9) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀, ▶, ▲, and ▼ arrow keys.

(10) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE, and adjust to the respective specified values using the arrow keys.
(Up to 21 blocks.)

- * When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.
- * During the adjustment, adjust SIZE if it has deviated.

(11) Press the MEMORY key.
(12) Press the REGISTRATION CENT key and ADJ R key, and set the RED adjustment mode, and adjust so that the RED vertical and horizontal lines come to the GREEN center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(13) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(14) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE, and adjust to the respective specified values using the arrow keys.
(Up to 21 blocks.)

- * When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.
- * During the adjustment, adjust SIZE and CENTER if they have deviated.

(15) Press the MEMORY key.
(16) Adjust BLUE in the same way, and press the MEMORY key.
(17) Adjust for all frequencies of the specified signal.

1-4-3. INPUT MEMORY NO. 8 Adjustment

Note) IDTV mode adjustment. Use the EXB-DS10 (IDTV board).

(1) Open the top board, and insert the connector from EXB-DS10 into CN438/439 of the BA board.
(2) Input the specified signal into the VIDEO IN terminal (Monoscope signal).

For VPH-G70QMG, connect the BC board for the jig to CN435 of the BA board, and then input the VIDEO signal.

(3) Press the MENU key, and set INT IDTV to ON on the OPTION menu.
(4) Press the INPUT VIDEO key and receive the signal.
(5) Press the BLKG key, and move the blanking at the top outside the effective screen using the ▲ arrow key.
(6) Press the POSITION + key, and move the blanking at the bottom outside the effective screen using the ▼ arrow key.
(7) Press the POSITION + key, and move the blanking at the left outside the effective screen using the ◀ arrow key.
(8) Press the POSITION + key, and move the blanking at the right outside the effective screen using the ▶ arrow key.
(9) Press the MEMORY key.
(10) Press the REGISTRATION CENT key, and set the GREEN adjustment mode using the CENT ADJ G key.
(11) Adjust the vertical lines and horizontal lines to the center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(12) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀, ▶, ▲, and ▼ arrow keys.
(13) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE, and adjust to the respective specified values using the arrow keys.
(Up to 21 blocks.)

- * When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.
- * During the adjustment, adjust SIZE if it has deviated.

(14) Press the MEMORY key.

(15) Press the REGISTRATION CENT key and ADJ R key, and set the RED adjustment mode, and adjust so that the RED vertical and horizontal lines come to the GREEN center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.

(16) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀, ▶, ▲, and ▼ arrow keys.

(17) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE (Up to 21 blocks.), and adjust to the respective specified values using the arrow keys.

* When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.

* During the adjustment, adjust SIZE and CENTER if they have deviated.

(18) Press the MEMORY key.

(19) Adjust BLUE in the same way, and press the MEMORY key.

(20) Press the BLKG key and set the BLKG adjustment mode.

(21) Adjust the BLKG at the top, bottom, left, and right to about 40 mm outside the effective screen using the ◀, ▶, ▲, and ▼ keys and POSITION keys.
Press the MEMORY key.

(22) Press the MENU key, and set INT.IDTV to OFF at the OPTION menu.

1-4-4. INPUT MEMORY NO. 9 Adjustment

* Hi-Vision adjustment. Use the Hi-Vision signal.

(1) Input the following specified signal into the RGB terminals of INPUT-A.

	fH	fV	H/C	V	SonG	CH
INPUT MEM.NO.9	33.75	60.00	(NEG)	(NEG)	NEG	INPUT-A

(2) Press the MENU key, set INPUT-A to HDTV-YPbPr at the SET SETTING menu, and set SYNC SEL to INT at the INPUT SETTING menu.

(3) Press the INPUT-A key, and input the specified signal.

(4) Press the BLKG key, and move the blanking at the top outside the effective screen using the ▲ arrow key.

(5) Press the POSITION + key, and move the blanking at the bottom outside the effective screen using the ▼ arrow key.

(6) Press the POSITION + key, and move the blanking at the left outside the effective screen using the ◀ arrow key.

(7) Press the POSITION + key, and move the blanking at the right outside the effective screen using the ▶ arrow key.

(8) Press the MEMORY key.

(9) Press the REGISTRATION CENT key and ADJ G key, and set the GREEN adjustment mode.

(10) Adjust the vertical and horizontal lines to the center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.

(11) Press the REGISTRATION SIZE key, and adjust the H direction so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀ and ▶ arrow keys. Next, decrease the V size to 16:9 using the ▲ and ▼ arrow keys.

(12) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE, and adjust to the respective specified values using the arrow keys.
(Up to 21 blocks.)

* When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.

* During the adjustment, adjust SIZE if it has deviated.

(13) Press the MEMORY key.

(14) Press the REGISTRATION CENT key and ADJ R key, and set the RED adjustment mode, and adjust so that the RED vertical and horizontal lines come to the GREEN center line of the screen using the ◀, ▶, ▲, and ▼ arrow keys.

(15) Press the REGISTRATION SIZE key, and adjust the H direction so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀ and ▶ arrow keys. Next, decrease the V size to 16:9 using the ▲ and ▼ arrow keys.

(16) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, and ZONE, and adjust to the respective specified values using the arrow keys.

* When adjusting the four corners, adjust using KEY, KEY BALANCE, PIN and PIN BALANCE. Do not use ZONE as much as possible.

* During the adjustment, adjust SIZE and CENTER if they have deviated.

(17) Press the MEMORY key.

(18) Adjust BLUE in the same way, and press the MEMORY key.

(19) Press the BLKG key and set the BLKG adjustment mode.

(20) Adjust the BLKG at the top, bottom, left, and right to about 40 mm outside the effective screen using the ◀, ▶, ▲, and ▼ keys and POSITION keys.
Press the MEMORY key.

(21) Press the MENU key, and set INPUT-A to RGB at the SET SETTING menu.

1-4-5. H.INV. Center Adjustment

(1) Turn OFF the power of the unit, and reverse the polarity of the horizontal deflection connectors.

DB board: CN242→CN245:RED signal
CN243→CN246:GREEN signal
2CN44→CN247:BLUE signal

(2) Turn ON the power, and input the VIDEO signal.
(3) Press the REGISTRATION CENT key, and press the ADJ G key and adjust the center of the GREEN HATCH.
(4) Press the MEMORY key.
(5) Likewise, adjust RED and BLUE, and press the MEMORY key.
(6) Press INPUT-A, and input the 24 kHz and 60 Hz signals used in the registration adjustment.
(7) Like steps (2) and (3), adjust the center.
(8) Input all the signals used in "3-1-4. REGISTRATION Adjustment" one by one to adjust the center.
(9) Turn OFF the power, and return the polarities of the horizontal deflection connectors to the original settings.

1-5. White Balance Adjustment

* For VPH-G70QMG, connect the IFB-G70QMG to CN435 of the BA board, and then input the VIDEO signal.

1-5-1. Color Temperature 9300°K Adjustment (Chromaticity diagram:x=0.284, y=0.297)

(1) Press the MENU key, and select the SET SETTING-SCREEN-S1 using the P6 key and ◀, ▶, ▲, and ▼ arrow keys.
(2) Press the INPUT VIDEO key, and input the 100IRE all white signal from the VIDEO IN terminal.
(3) Press the W/B GAIN key, and press the ADJ G key and set the GREEN adjustment mode.
(4) Select 9300 using the POSITION +/– keys, and press the MEMORY key.
(5) Adjust GAIN using the W/B GAIN and ADJ keys, and adjust BIAS using the W/B BIAS and ADJ keys, and preset the following values.

	R	G	B
GAIN	126	150	255
BIAS	137	141	109

(6) Press the STATUS OFF key and erase the OSD.
(7) Press the PATTERN key three times to set the external all white signal.
(8) Attach the sensor of the W/B measuring device to the lens.

W/B measuring device (Color analyzer)
Model:PWB-801 (SONY)
Calibration coefficient
R/G:1.395
B/G:0.802

(9) Press the W/B GAIN key and ADJ G key, and set the GREEN adjustment mode.
(10) Press the ◀ and ▶ arrow keys and adjust the B/G value of the W/B measuring device to 1.00.

W/B 9300° K+8 MPCD specifications:
Cut off
R/G:1.00±0.15
B/G:1.00±0.15
Y:0.75±0.10

Highlight
R/G:1.00±0.10
B/G:1.00±0.10

* As BLUE serves as the reference for the 9300K GAIN, do not move BLUE.

(11) Press the W/B GAIN key and ADJ R key, and set the RED adjustment mode.
(12) Press the ◀ and ▶ arrow keys and adjust the R/G value of the W/B measuring device to 1.00.
(13) Repeat steps (8) to (12) and adjust both R/G and B/G to 1.00.
(14) Change the input signal to the 101 RE all white signal.
(15) Press the W/B BIAS key and ADJ G key, and adjust the Y value of the W/B measuring device to 0.75.
(16) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(17) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.

W/B 9300° K+8 MPCD specifications
Cut off
R/G:1.00±0.15
B/G:1.00±0.15
Y:0.75±0.10

Highlight
R/G:1.00±0.10
B/G:1.00±0.10

(18) Repeat steps (15) to (17) and adjust both R/G and B/G to 1.00.
(19) Change the input signal to the 101 RE all white signal.
(20) Press the W/B GAIN key and ADJ G key, and adjust the B/G value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(21) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(22) Repeat the highlight adjustment in steps (10) to (13) and the cutoff adjustment in steps (15) to (17) two to three times to adjust the tracking.
(23) When the specifications are satisfied, press the MEMORY key to memorize the 9300°K data.
(24) Remove the sensor from the lens.

1-5-2. Color Temperature 6500°K Adjustment Chromaticity diagram:x=0.313, y=0.329)

(1) Press the INPUT VIDEO key, and input the 100 IRE all white signal from the VIDEO IN terminal.
(2) Press the W/B GAIN key, and press the ADJ G key and set the GREEN adjustment mode.
(3) Select 6500 using the POSITION +/– keys, and press the MEMORY key.
(4) Adjust GAIN using the W/B GAIN and ADJ keys, and adjust BIAS using the W/B BIAS and ADJ keys, and preset the following values.

	R	G	B
GAIN	185	203	255
BIAS	74	77	46

(5) Press the STATUS OFF key and erase the OSD.
(6) Press the PATTERN key three times to set the external all white signal.
(7) Attach the sensor of the W/B measuring device to the lens.

W/B measuring device (Color analyzer)
Model:PWB-801 (SONY)
Calibration coefficient
R/G:1.395
B/G:0.802

(8) Press the W/B GAIN key and ADJ G key, and set the GREEN adjustment mode.
(9) Press the ◀ and ▶ arrow keys and adjust the B/G value of the W/B measuring device to 0.74.

W/B 6500°K+8 MPCD specifications:
Cut off
R/G:1.08±0.15
B/G:0.74±0.15
Y:0.75±0.10

Highlight
R/G:1.08±0.10
B/G:0.74±0.10

* As BLUE serves as the reference for the 6500K GAIN, do not move BLUE.

(10) Press the W/B GAIN key and ADJ R key, and set the RED adjustment mode.
(11) Press the ◀ and ▶ arrow keys and adjust the R/G value of the W/B measuring device to 1.08.
(12) Repeat steps (8) to (11) and adjust R/G and B/G to 0.74 and 1.08 respectively.
(13) Change the input signal to the 101 RE all white signal.
(14) Press the W/B BIAS key and ADJ G key, and adjust the Y value of the W/B measuring device to 0.75.

(15) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 0.74 using the ◀ and ▶ arrow keys.

(16) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.08 using the ◀ and ▶ arrow keys.

W/B 6500°K+8 MPCD specifications:
Cut off
R/G:1.08±0.15
B/G:0.74±0.15
Y:0.75±0.10

Highlight
R/G:1.08±0.10
B/G:0.74±0.10

(17) Repeat steps (14) to (16), and adjust B/G and R/G to 0.74 and 1.08 respectively.

(18) Change the input signal to the 101RE all white signal.

(19) Press the W/B GAIN key and ADJ G key, and adjust the B/G value of the W/B measuring device to 0.74 using the ◀ and ▶ arrow keys.

(20) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.08 using the ◀ and ▶ arrow keys.

(21) Repeat the highlight adjustment in steps (8) to (11) and the cutoff adjustment in steps (14) to (16) two to three times to adjust the tracking.

(21) When the specifications are satisfied, press the MEMORY key to memorize the 6500°K data.

(22) Remove the sensor from the lens.

1-5-3. Color Temperature 5400°K Adjustment Chromaticity diagram:x=0.335, y=0.349)

(1) Press the INPUT VIDEO key, and input the 100IRE all white signal from the VIDEO IN terminal.

(2) Press the W/B GAIN key, and press the ADJ G key and set the GREEN adjustment mode.

(3) Select 5400 using the POSITION +/– keys, and press the MEMORY key.

(4) Adjust GAIN using the W/B GAIN and ADJ keys, and adjust BIAS using the W/B BIAS and ADJ keys, and preset the following values.

	R	G	B
GAIN	227	255	212
BIAS	54	47	46

(5) Press the STATUS OFF key and erase the OSD.

(6) Press the PATTERN key three times to set the external all white signal.

(7) Attach the sensor of the W/B measuring device to the lens.

W/B measuring device (Color analyzer)
Model:PWB-801 (SONY)
Calibration coefficient
R/G:1.395
B/G:0.802

(8) Press the W/B GAIN key and ADJ B key, and set the BLUE adjustment mode.

(9) Press the ◀ and ▶ arrow keys and adjust the B/G value of the W/B measuring device to 0.58.

W/B 5400°K+8 MPCD specifications:
Cut off
R/G:1.26±0.15
B/G:0.58±0.15
Y:0.75±0.10

Highlight
R/G:1.26±0.10
B/G:0.58±0.10

* As GREEN serves as the reference for the 5400K GAIN, do not move GREEN.

(10) Press the W/B GAIN key and ADJ R key, and set the RED adjustment mode.

(11) Press the ◀ and ▶ arrow keys and adjust the R/G value of the W/B measuring device to 1.26.

(12) Repeat steps (8) to (11) and adjust B/G and R/G to 0.58 and 1.26 respectively.

(13) Change the input signal to the 101RE all white signal.

(14) Press the W/B BIAS key and ADJ G key, and adjust the Y value of the W/B measuring device to 0.75 using the ◀ and ▶ arrow keys.
(15) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 0.58 using the ◀ and ▶ arrow keys.
(16) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.26 using the ◀ and ▶ arrow keys.

W/B 5400°K+8 MPCD specifications:
Cut off
R/G:1.26±0.15
B/G:0.58±0.15
Y:0.75±0.10

Highlight
R/G:1.26±0.10
B/G:0.58±0.10

(17) Repeat steps (14) to (16), and adjust B/G and R/G to 0.58 and 1.26 respectively.
(18) Change the input signal to the 101RE all white signal.
(19) Press the W/B GAIN key and ADJ B key, and adjust the B/G value of the W/B measuring device to 0.58 using the ◀ and ▶ arrow keys.
(20) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.26 using the ◀ and ▶ arrow keys.
(21) Repeat the highlight adjustment in steps (8) to (11) and the cutoff adjustment in steps (13) to (16) two to three times to adjust the tracking.
(22) When the specifications are satisfied, press the MEMORY key to memorize the 5400°K data.
(23) Remove the sensor from the lens.

1-5-4. Color Temperature 3200°K Adjustment Chromaticity diagram:x=0.427, y=0.408)

(1) Press the INPUT VIDEO key, and input the 100IRE all white signal from the VIDEO IN terminal.
(2) Press the W/B GAIN key and press the ADJ G key, and set the GREEN adjustment mode.
(3) Select 3200 using the POSITION +/– keys, and press the MEMORY key.
(4) Adjust GAIN using the W/B GAIN and ADJ keys, and adjust BIAS using the W/B BIAS and ADJ keys, and preset the following values.

	R	G	B
GAIN	255	184	39
BIAS	74	88	93

(5) Press the STATUS OFF key and erase the OSD.
(6) Press the PATTERN key three times to set the external all white signal.
(7) Attach the W/B measuring device to the lens.

W/B measuring device (Color analyzer)
Model:PWB-801 (SONY)
Calibration coefficient
R/G:1.395
B/G:0.802

(8) Press the W/B GAIN key and ADJ G key, and set the GREEN adjustment mode.
(9) Press the ◀ and ▶ arrow keys and adjust the B/G value of the W/B measuring device to 2.00.

W/B 3200°K+8 MPCD specifications:
Cut off
R/G:2.00±0.15
B/G:0.20±0.15
Y:0.75±0.10

Highlight
R/G:2.00±0.10
B/G:0.20±0.10

* As RED serves as the reference for the 3200K GAIN, do not move RED.

(10) Press the W/B GAIN key and ADJ B key, and set the BLUE adjustment mode.
(11) Press the ◀ and ▶ arrow keys and adjust the B/G value of the W/B measuring device to 0.20.
(12) Repeat steps (8) to (11) and adjust R/G and B/G to 2.00 and 0.20 respectively.
(13) Change the input signal to the 101RE all white signal.
(14) Press the W/B BIAS key and ADJ G key, and adjust the Y value of the W/B measuring device to 0.75 using the ◀ and ▶ arrow keys.

(15) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 0.20 using the ◀ and ▶ arrow keys.
(16) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 2.00 using the ◀ and ▶ arrow keys.

W/B 3200°K+8 MPCD specifications:
Cut off
R/G:2.00±0.15
B/G:0.20±0.15
Y:0.75±0.10

Highlight
R/G:2.00±0.10
B/G:0.20±0.10

(17) Repeat steps (14) to (16), and adjust B/G and R/G to 0.20 and 2.00 respectively.
(18) Change the input signal to the 101RE all white signal.
(19) Press the W/B GAIN key and ADJ G key, and adjust the R/G value of the W/B measuring device to 2.00 using the ◀ and ▶ arrow keys.
(20) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 0.20 using the ◀ and ▶ arrow keys.
(21) Repeat the highlight adjustment in steps (8) to (11) and the cutoff adjustment in steps (13) to (17) two to three times to adjust the tracking.
(21) When the specifications are satisfied, press the MEMORY key to memorize the 3200°K data.
(22) Remove the sensor from the lens.
(23) Press the W/B GAIN key and press the ADJ G key, and set the GREEN adjustment mode.
(24) Select PRESET using the POSITION +/– keys, and press the MEMORY key.
(25) Press the W/B GAIN key and ADJ R, G, and B keys in order, adjust using the ◀ and ▶ arrow keys, and input the 6500 GAIN R, G, and B data.

PRESET GAIN R=6500 GAIN R
PRESET GAIN G=6500 GAIN G
PRESET GAIN B=6500 GAIN B

(26) Press the W/B BIAS ADJ R, G, and B keys in order, adjust using the ◀ and ▶ arrow keys, and input the 6500 BIAS R, G, and B data.

PRESET GAIN R=6500 BIAS R
PRESET GAIN G=6500 BIAS G
PRESET GAIN B=6500 BIAS B

(27) Press the MEMORY key.

1-5-5. Screen Setting Compensation Calculation (S1 → S2)

(1) Press the INPUT VIDEO key, and input the 100 IRE all white signal into the VIDEO IN terminal.
(2) Display the menu screen using the MENU key.
Select SET SETTING→SCREEN SEL→S2.
(3) Press the W/B GAIN key and ADJ G key, and set the GREEN adjustment mode.
(4) Adjust the GAIN of R, G, and B using the W/B GAIN ADJ key, and input the data according to the following compensation calculation method.

Compensation calculation method:
S2 GAIN R=S1 GAIN R-26
S2 GAIN G=S1 GAIN G-18
S2 GAIN B=S1 GAIN B

(5) Press the MEMORY key and memorize the data.
(6) Press the POSITION + and – keys, and select 6500.
(7) Adjust the R, G, and B GAIN using the W/B GAIN key and ADJ key, and input the data.

(8) Press the MEMORY key and memorize the data.
(9) Press the POSITION + and – keys, and select 5400.
(10) Adjust the R, G, and B GAIN using the W/B GAIN key and ADJ keys, and input the data according to the following compensation calculation method..

Compensation calculation method:
S2 GAIN R=S1 GAIN R-26
S2 GAIN G=S1 GAIN G-18
S2 GAIN B=S1 GAIN B

(11) Press the MEMORY key and memorize the data.
(12) Press the POSITION + and – keys, and select 3200.
(13) Adjust the R, G, and B GAIN using the W/B GAIN key and ADJ key, and input the data according to the following compensation calculation method.

Compensation calculation method:
S2 GAIN R=S1 GAIN R-26
S2 GAIN G=S1 GAIN G-18
S2 GAIN B=S1 GAIN B

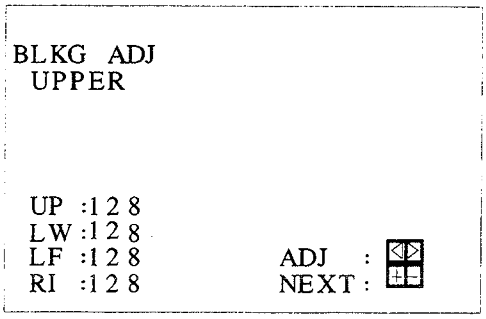
(14) Press the MEMORY key and memorize the data.
(15) Press the POSITION + and – keys, and select PRESET.
(16) Adjust the R, G, and B GAIN using the W/B GAIN key and ADJ key, and copy the R, G, and B GAIN of 6500.
(17) Press the MEMORY key and memorize the data.

1-6. SIZE/SHIFT/BLKG Adjustment

* For VPH-G70QMG, connect the IFB-G70QMG to CN435 of the BA board.

1-6-1. VIDEO SIZE/SHIFT/BLKG Adjustment

(1) Input the monoscope signal to the VIDEO IN terminal.
(2) Press the RGB SHIFT key, and adjust the monoscope center to the screen center using the ◀, ▶, ▲, and ▼ arrow keys.
(3) Press the RGB SIZE key, and adjust the H.SIZE of the monoscope to 16 frames and V.SIZE to 12 frames using the ◀, ▶, ▲, and ▼ arrow keys.
(4) Press the MEMORY key.
(5) Press the BLKG key, and move the blanking at the top to the approximately 40 m/m position outside the effective screen using the ▲ and ▼ arrow keys.



BLKG ADJ
UPPER

UP :128
LW :128
LF :128
RI :128

Blanking adjusting position specification: 40±10 m/m

Fig. 19

(6) Press the POSITION + key and set the bottom blanking adjustment mode.
(7) Move the blanking at the bottom to the approximately 40 m/m position outside the effective screen using the ▼ and ▲ arrow keys.

Blanking adjusting position specification: 40±10 m/m

(8) Press the POSITION + key and set the left blanking adjustment mode.
(9) Move the blanking at the left to the approximately 40 m/m position outside the effective screen using the ◀ and ▶ arrow keys.

Blanking adjusting position specification: 40±10 m/m

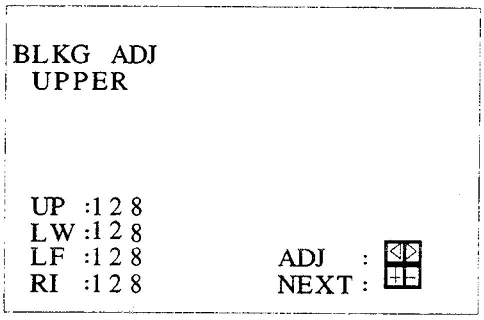
(10) Press the POSITION + key and set the right blanking adjustment mode.
(11) Move the blanking at the right to the approximately 40 m/m position outside the effective screen using the ▶ and ◀ arrow keys.

Blanking adjusting position specification: 40±10 m/m

(12) Press the MEMORY key.

1-6-2. IDTV SIZE/SHIFT/BLKG Adjustment

(1) Connect the EXB-DS10 for jig to the BA board.
(2) Input the specified signal (monoscope) to the VIDEO IN terminal.
(3) Press the MENU key, and turn ON INT IDTV at the OPTION menu.
(4) Press the VIDEO key, and input the signal.
(5) Press the RGB SHIFT key, and adjust the monoscope center to the screen center using the ◀, ▶, ▲ and ▼ arrow keys.
(6) Press the RGB SIZE key, and adjust the H SIZE to 16 frames and V SIZE to 12 frames of the monoscope using the ◀, ▶, ▲ and ▼ arrow keys.
(7) Press the MEMORY key.
(8) Press the BLKG key, and move the blanking at the top to the approximately 40 m/m position outside the effective screen using the ▲ and ▼ arrow keys.



BLKG ADJ
UPPER

UP :128
LW :128
LF :128
RI :128

Blanking adjusting position specification: 40±10 m/m

Fig. 20

(9) Press the POSITION + key and set the bottom blanking adjustment mode.
(10) Move the blanking at the bottom to the approximately 40 m/m position outside the effective screen using the ▲ and ▼ arrow keys.

Blanking adjusting position specification: 40±10 m/m

(11) Press the POSITION + key and set the left blanking adjustment mode.
(12) Move the blanking at the left to the approximately 40 m/m position outside the effective screen using the ◀ and ▶ arrow keys.

Blanking adjusting position specification: 40±10 m/m

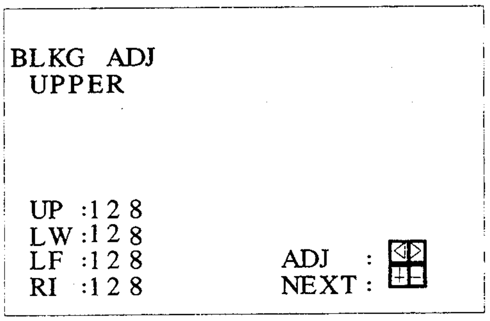
(13) Press the POSITION + key and set the right blanking adjustment mode.
(14) Move the blanking at the right to the approximately 40 m/m position outside the effective screen using the ▶ and ◀ arrow keys.

Blanking adjusting position specification: 40±10 m/m

(15) Press the MEMORY key.
(16) Press the MENU key, and turn OFF INT IDTV at the OPTION menu.

1-6-3. HDTV SIZE/SHIFT/BLKG Adjustment

(1) Press the INPUT-A key, and input the specified signal.
(2) Press the RGB SHIFT key, and adjust the video center to the screen center using the ◀, ▶, ▲, and ▼ arrow keys.
(3) Press the RGB SIZE key, and adjust H.SIZE and V.SIZE to the screen size (16:9) using the ◀, ▶, ▲, and ▼ arrow keys.
(4) Press the MEMORY key.
(5) Press the BLKG key, and move the blanking at the top to the approximately 40 m/m position outside the effective screen using the ▲ and ▼ arrow keys.



BLKG ADJ
UPPER

UP :128
LW :128
LF :128
RI :128

ADJ :
NEXT :

Blanking adjusting position specification: 40±10 m/m

Fig. 21

(6) Press the POSITION + key and set the bottom blanking adjustment mode.
(7) Move the blanking at the bottom to the approximately 40 m/m position outside the effective screen using the ▼ and ▲ arrow keys.

Blanking adjusting position specification: 40±10 m/m

(8) Press the POSITION + key and set the left blanking adjustment mode.
(9) Move the blanking at the left to the approximately 40 m/m position outside the effective screen using the ◀ and ▶ arrow keys.

Blanking adjusting position specification: 40±10 m/m

(10) Press the POSITION + key and set the right blanking adjustment mode.
(11) Move the blanking at the right to the approximately 40 m/m position outside the effective screen using the ▶ and ◀ arrow keys.

Blanking adjusting position specification: 40±10 m/m

(12) Press the MEMORY key.
(13) Push up S100-1 SW of the YB board.

1-7. High Voltage Screen Distortion Adjustment

(1) Press the INPUT-A key, and input the fH:31.5 kHz RGB stripe signal to the RGB terminals.
(2) Continue pressing the CONTR and BRIGHT + keys until these levels are maximum.
(3) Adjust RV101 of the E board until the left and right vertical lines of the stripes become straight.

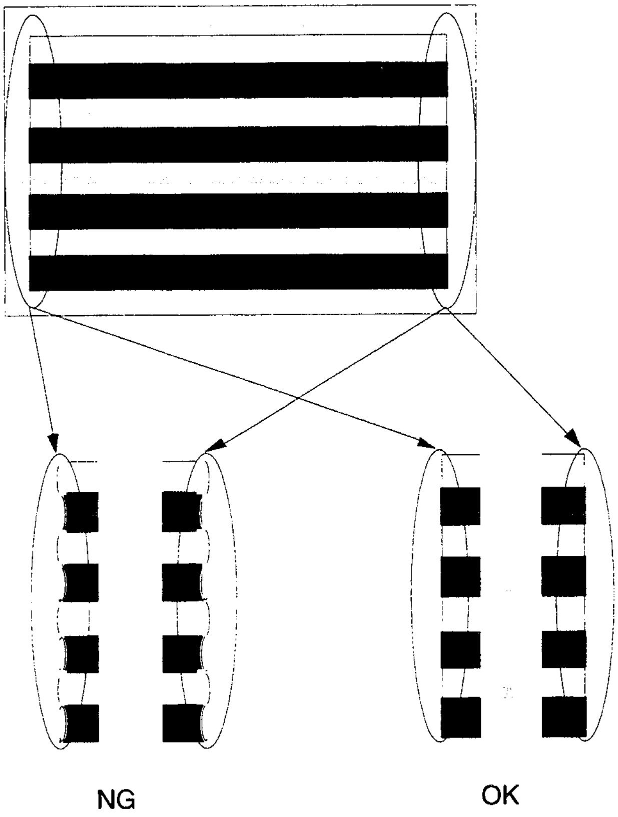


Fig. 22

1-8. Procedure After Completing Adjustments

After completing all adjustments, push down DIP SW 1 (S100) of the YB board, and push it up again to create the FACTORY DATA.

3-2. SAFETY RELATED ADJUSTMENTS

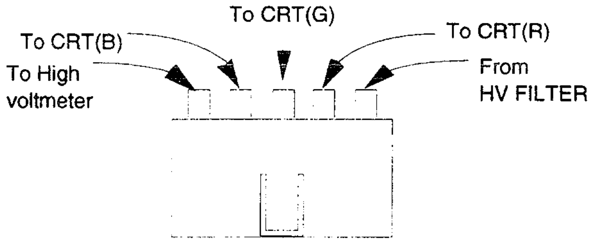
When the following parts (marked ◪ on schematic diagrams) have been replaced, check and adjust the HV regulation circuit, HV hold down circuit.

⧓ RV2 [HV Regulation] PA board
◪ IC2, IC3, IC4, IC7, IC9, IC10, IC12, IC13, D12, R53, R57, R59, R60, R61, R68, R69, R70, R72, R76, R77, R78, X1
.... PA board

⧓ RV1 [HV Hold-down] PA board
◪ IC1, D1, D2, C3, R1, R2, R3, R4, R5, R6, R7, R185, R194
.... PA board

⧓ RV1, RV2: HV protector, HV regulator check

(1) Remove the PA board from the unit, and connect the extension board.
(2) Connect the cable from the high voltage meter to the chassis and HV block. (Refer to Fig. 1.)



HV block

Fig. 1

(3) Input the monoscope signal.
(4) Press the VTR (+) key of the remote commander continuously to set the maximum CONT, and press the BRIGHT (+) key continuously to set the maximum BRIGHT.
(5) Rotate RV2 (HV-REG) of the PA board slowly to the left (counterclockwise) and adjust the high voltage to 33 kV.

High voltage specifications during
HV-PROT adjustment: 33±0.3 kV

- When the point at which HV.PROT operates cannot be adjusted to the specification.
  Point at which HV.PROT operates
  <32 kV:Connect 100 kΩ between TP1 and TP2.
  32.0kV ≦ Point at which HV.PROT operates
  <32.7 kV:Connect 270 kΩ between TP1 and TP2.
  33.3 kV<Point at which HV.PROT operates:Cut R2.
  Connect 120 kΩ between TP1 and TP2.

(6) Rotate RV1 (HV-PROT) slowly to the right (clockwise) until the high voltage stops.
(The power goes OFF several seconds later.)
(7) Cover RV1 (HV-PROT) with a rotation-stopper cap, and apply RTV to fix it. (See Fig. 2.)
(8) Rotate RV2 (V-REG) slightly in the clockwise direction so that the POWER turns ON.
(9) Rotate RV2 (HV-REG) slightly to the left (counterclockwise), and check that the power goes OFF at a high voltage of 33kV.

High voltage specification during
HV-PROT adjustment: 33±0.3 kV

(10) Rotate RV2 (HV-REG) slightly back in the clockwise direction so that the power turns ON.
(11) Press the PIC key of the remote commander MUTING to cutoff.
(12) Adjust RV2 (HV-REG) so that the high voltage becomes 32 kV.

High voltage specification during
HV-PROT adjustment: 33±0.3 kV

(13) Turn OFF the power, cover RV2 with a rotation-stopper cap, and apply RTV to fix it.
(See Fig. 1)
(Also apply sufficiently to the top of VR.)
(14) Turn ON the power, and check that the high voltage is within the specification.

High voltage adjustment
specification (During cutoff): 32±0.3 kV

(15) Check that the high voltage change when the CONTR BRIGHT is set to MIN and set to MAX using the remote commander is within the specification.

High voltage change specification:
High voltage adjustment value $^{+0.2}_{-0.3}$ kV

* If outside the specification, perform steps (3) to (13) and check again.
* When re-adjusting RV 1 and RV2, replace the VR and rotation-stopper caps first.

(16) Set CONTR and BRIGHT to "80" and "50" respectively.

* Apply RTV over the whole top part of the VR and top part of the cap.
(No uncovered parts when seen from the top)

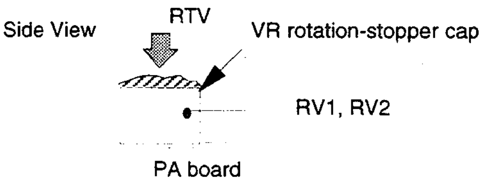
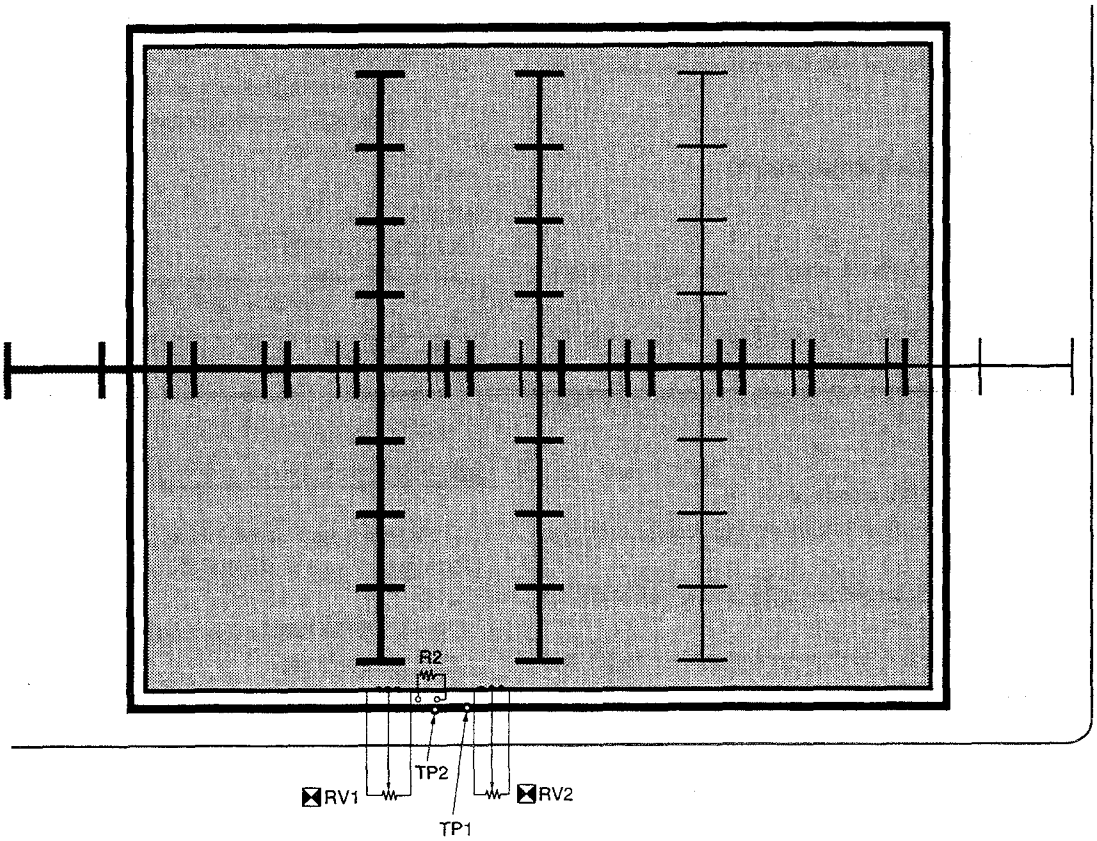


Fig. 2

PA BOARD


R2
TP2
RV1
RV2
TP1

3-3. Electrical Adjustments

Note) Perform this adjustment only when the parts of each board have been replaced.
If replaced as a whole, the following adjustments will not be required.

3-3-1. Power Supply Block Adjustment

1. DC (+) Adjustments

(1) Remove the FA board from the unit, and connect the extension board.
(2) Connect a digital voltmeter to Pin (A1) of CN171 of the FA board.
(3) Adjust RV501 of the FAA board so that the voltage of Pin (A1) becomes 375.0±2.0V.

2. +115V (HV), +115V Adjustments

(1) Remove the GA board from the unit, and connect the extension board.
(2) Connect a digital voltmeter to Pins (A29) and (A26) of CN111 of the GA board.
(3) Adjust the respective RV so that the voltages of (A29) and (A26) become the specified values.

Pin (A29) 115V (HV):115.0±0.5V...RV201 (GA board)
Pin (A26) 115V:115.0±0.5V...RV251 (GA board)

3. Frequency Adjustment

(1) Remove the GA board from the unit, and connect the extension board.
(2) Connect a frequency counter to Pin ① of IC301.
(3) Adjust RV301 of the GC board so that the frequency of Pin ?? of IC301 becomes 100±4 kHz.

3-3-2. BA Board PICTURE CONTROL Adjustment

* The BA board and YB board are considered a pair in this adjustment.
(Adjustment data is saved in IC302, IC308 of the YB board.)
Consequently, when either one board is replaced, both must be adjusted.

RS-422A protocol
CXA1839Q (IC400)

	CMD1	CMD2	CMD3	DATA1	DATA2 (Variable range)
NTSC PICTURE	32	10	10	00	DATA(00~3F)
SUB HUE	32	21	10	01	DATA(00~0F)
SUB COL1	32	29	10	00	DATA(00~0F)
PAL SUB COL1	32	29	10	01	DATA(00~0F)

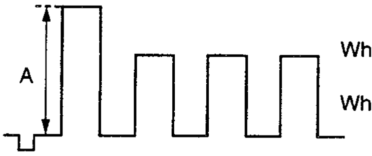
(1) Construct the B and BA boards block using an extension board.
(2) Input a signal to VIDEO IN of the BC board.

* For VPH-G70QMG, connect a IFB-G70QMG to CN435 of the BA board.

(3) Connect an oscilloscope to TP403 (B OUT) of the BA board.
(4) Connect a communication controller to the REMOTE 1 (RS422A) terminal of the YC board.

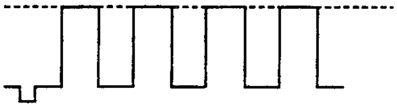
* Adjust the baud rate of the unit to the baud rate of the communication controller.

(5) Turn ON the power of the unit, and select VIDEO.
(6) Input the NTSC 100% color bar signal, and change the PICTURE data of XA1839Q (IC400) using the communication controller to the data at which the amplitude from the pedestal to 100IRE is closest to 0.714 Vp-p.



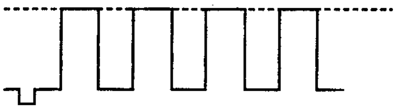
When the input amplitude is 0.714:
A=0.714±0.01V
When the input amplitude is 0.70V:
A=0.70±0.01V

(7) Input the NTSC 75% color bar signal, and change the SUB, HUE, SUB COL1 data of the XA1839Q (IC400) using the communication controller to the data at which the amplitude is the flattest.



The amplitude levels must be the same.

(8) Input the PAL 75% color bar signal, and change the SUB COL1 data of XA1839Q (IC400) using the communication controller to the data at which the amplitude is the flattest.



The amplitude levels must be the same.

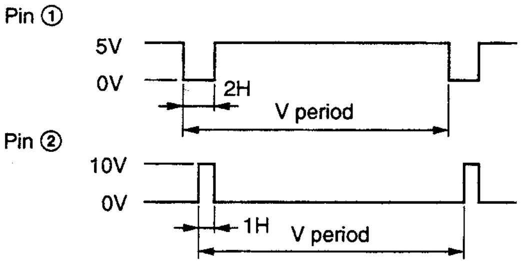
(9) While pressing the MEMORY key of the commander, turn OFF the power of the unit.

(10) Disconnect the oscilloscope and communication controller, and return the B and BA boards back to their original positions.

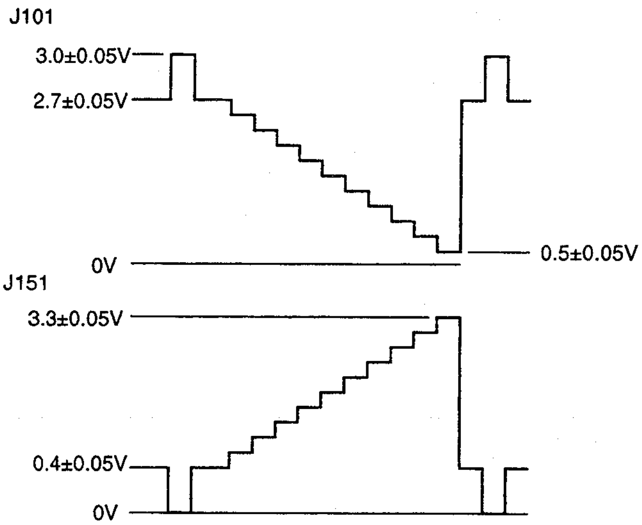
3-3-3. C Board Adjustment

1. Preparations

(1) Input the following signals to CN158.



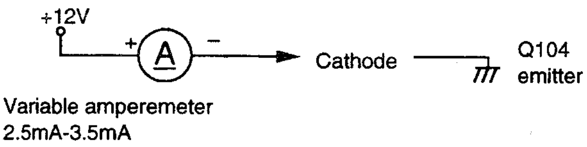
(2) Input the following signals to J101 and J151.



(3) Input 15.0±0.5V to Pin ④ of CN157.

2. Single-Tube IK Protector Adjustment

(1) Connect the following current supply to the cathode of J102 (CRT socket).



(2) Connect an oscilloscope to Pin ③ of CN158.

(3) Raise the output of the current supply in (4), and adjust RV101 so that the output changes from High to Low at 3.2±0.1 mA.

(4) Disconnect the power supply and oscilloscope in (4) and (5).

3. GAIN Adjustment

(1) Connect the following power supply to CN157.

Pin ①:+135.0±2.0V
Pin ②:+103.0±2.0V
Pin ④:+15.0V±0.5V
Pin ⑤:–15.0V±0.5V
Pin ⑦:–180.0±5.0V

(2) While observing the waveform of the cathode of J102 (CRT socket), adjust RV102 until the waveform is about to flatten.

(3) While observing the waveform of the cathode of J102 (CRT socket), adjust RV103 until the waveform is about to flatten.

3-1-4. D Board Adjustment

- * Remove the D board from the unit, and connect an extension board.
- * Check the power supply voltage of CN331.

CN331: Pin (A14) :+15V
Pin (A17) :-15V
Pin (A28) :+15V
Pin (A29) :+6V
Pin (A32) :-6V
Pin (C23) :Jungle 115V

- * Check that the H.V.SYNC is 5 Vp-p.

1. FV Voltage Adjustment

(1) Input a fH: 30 kHz signal to the VIDEO IN terminal.
(2) Connect a digital voltmeter to TP7 (F-V).
(3) Adjust RV2 so that the TP7 voltage becomes 2.0V± V.

2. AFC Adjustment

(1) Connect a jumper wire between Pins (C23) and (A30) of CN331.
(2) Connect an oscilloscope to TP5 (12V HD) and TP3 (H.SYNC).
(3) Set S2 (HD ON/OFF) to OFF.
(4) Input the fH:30 kHz H.SYNC.
(5) Adjust RV3 so that the waveforms of TP5 (12V HD) and TP3 (H.SYNC) are synchronized.
(6) Input the fH:100 kHz H.SYNC.
(7) Adjust RV4 so that the waveforms of TP5 (12V HD) and TP3 (H.SYNC) are synchronized.
(8) Input the fH:15.75 kHz H.SYNC.
(9) Connect a jumper wire between Pins (C23) and (A30) of CN331.
(10) Adjust RV5 so that the waveforms of TP5 (12V HD) and TP3 (H.SYNC) are synchronized.
(11) Set S2 (HD ON/OFF) to ON.
(12) Check that the waveforms of TP5 (12V HD) and TP3 (H.SYNC) switch to fH:15.75 kHz, fH:30 kHz, fH:64 kHz, fH:100 kHz, and fH:110 kHz, and that they are synchronized.

3. V.HOLD Adjustment

(1) Connect a frequency counter to (B1) of CN341.
(2) Input the fV:60 Hz V.SYNC.
(3) Set S1 (VD ON/OFF) to OFF.
(4) Adjust RV1 so that the frequency counter value becomes 50.0 Hz.
(5) Set S1 (ON/OFF) to ON.
(6) Connect an oscilloscope to Pin (B1) of CN341 and TP4 (V.SYNC).
(7) Switch V.SYNC to fV:38 kHz, fV:50 kHz, fV:60 Hz, fV:100 Hz, and fV:150 Hz, and check that the waveforms of Pin (B1) of CN341 and TP4 (V.SYNC) are synchronized.

3-3-5. EC Board Adjustment

1. Fan Voltage Adjustment

(1) Remove the EC board from the unit, and connect the extension board.
(2) Connect a digital voltmeter to Pin (A9) of CN351.
(3) Adjust RV430 so that the voltage of Pin (A9) of CN351 becomes 13.0±0.1V.

3-3-6. E Board Adjustment

1. Preparations

- * Remove the E board from the unit, and connect the extension board.
- * Check the voltage of each power supply.

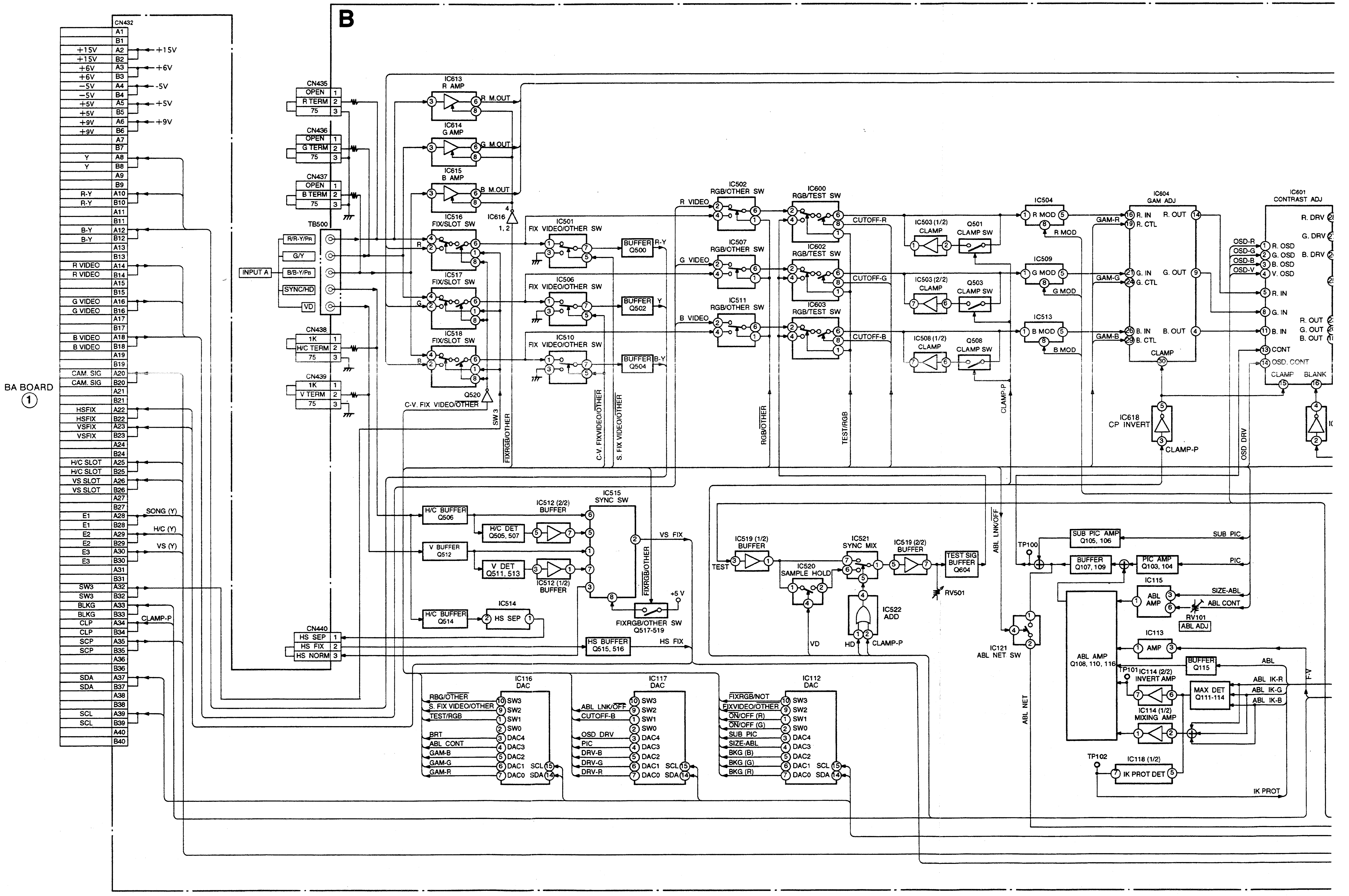
2. H.LIN Adjustment

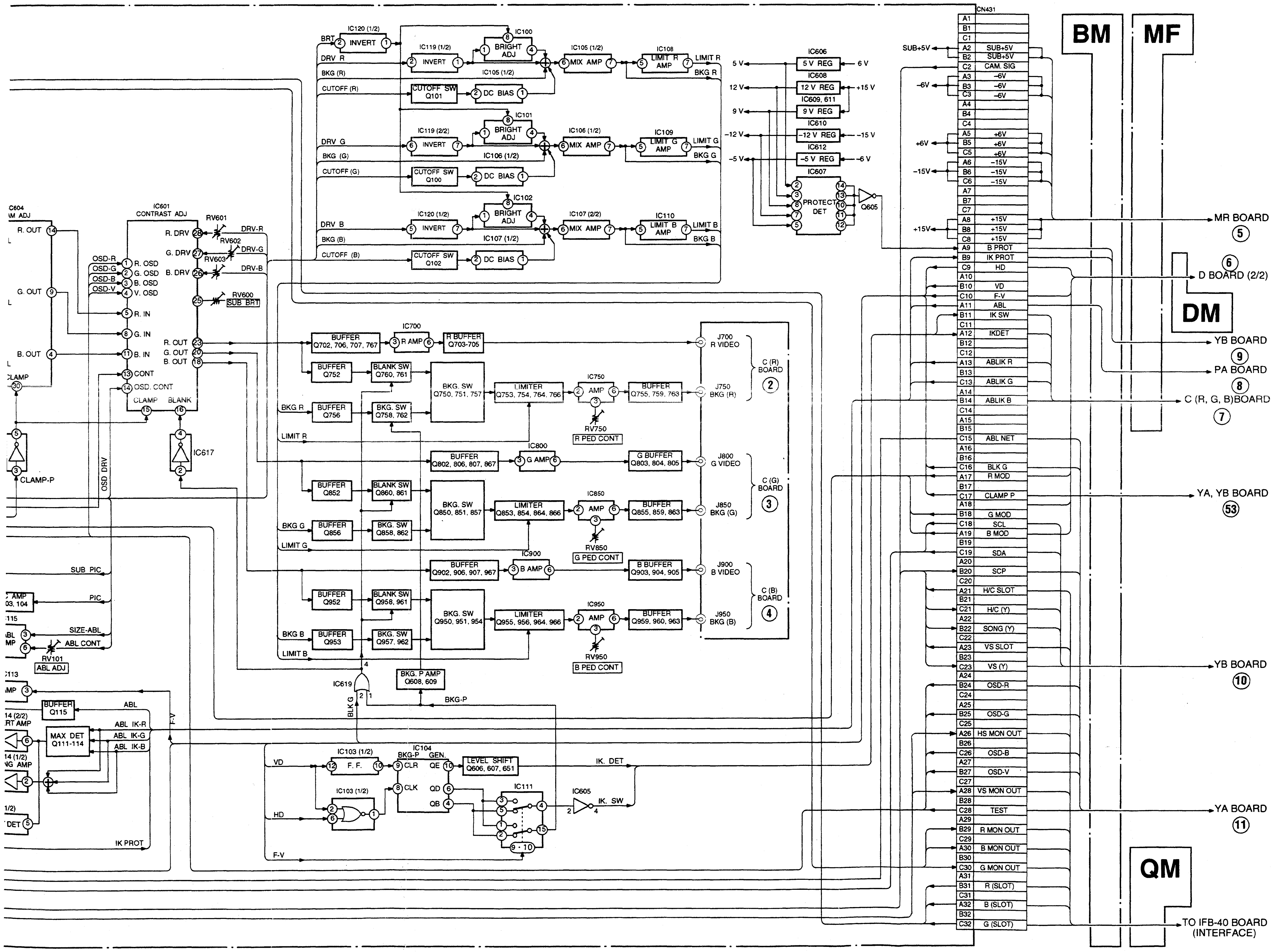
(1) Check the fH:20 kHz H.OSC signal input to Pin (A5) of CN231 on the oscilloscope.
(2) Adjust the H.SIZE voltage of Pin (A7) of CN231 to 0V.
(3) Adjust the H.LINE 1 voltage of Pin (A8) of CN241 to 0V.
(4) Adjust the H.LINE 2 voltage of Pin (A9) of CN241 to 0V.
(5) Connect a digital voltmeter to TP6 (H.LIN).
(6) Adjust RV102 so that the voltage of TP6 (H.LIN) becomes 0.78±0.02V.
(7) Set back the voltages in (2), (3), and (4) to the original values.

SECTION 4
DIAGRAMS

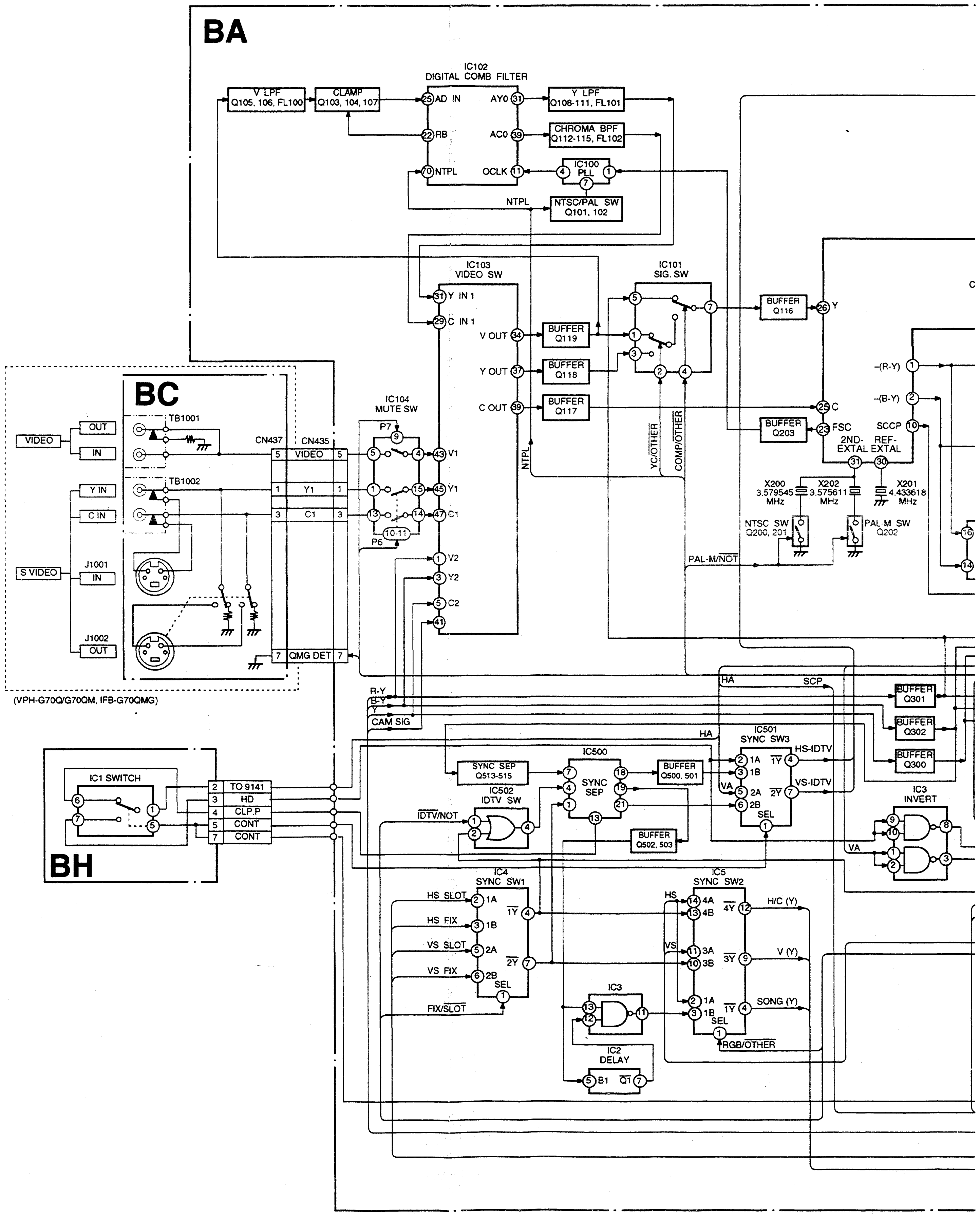
4-1. BLOCK DIAGRAMS

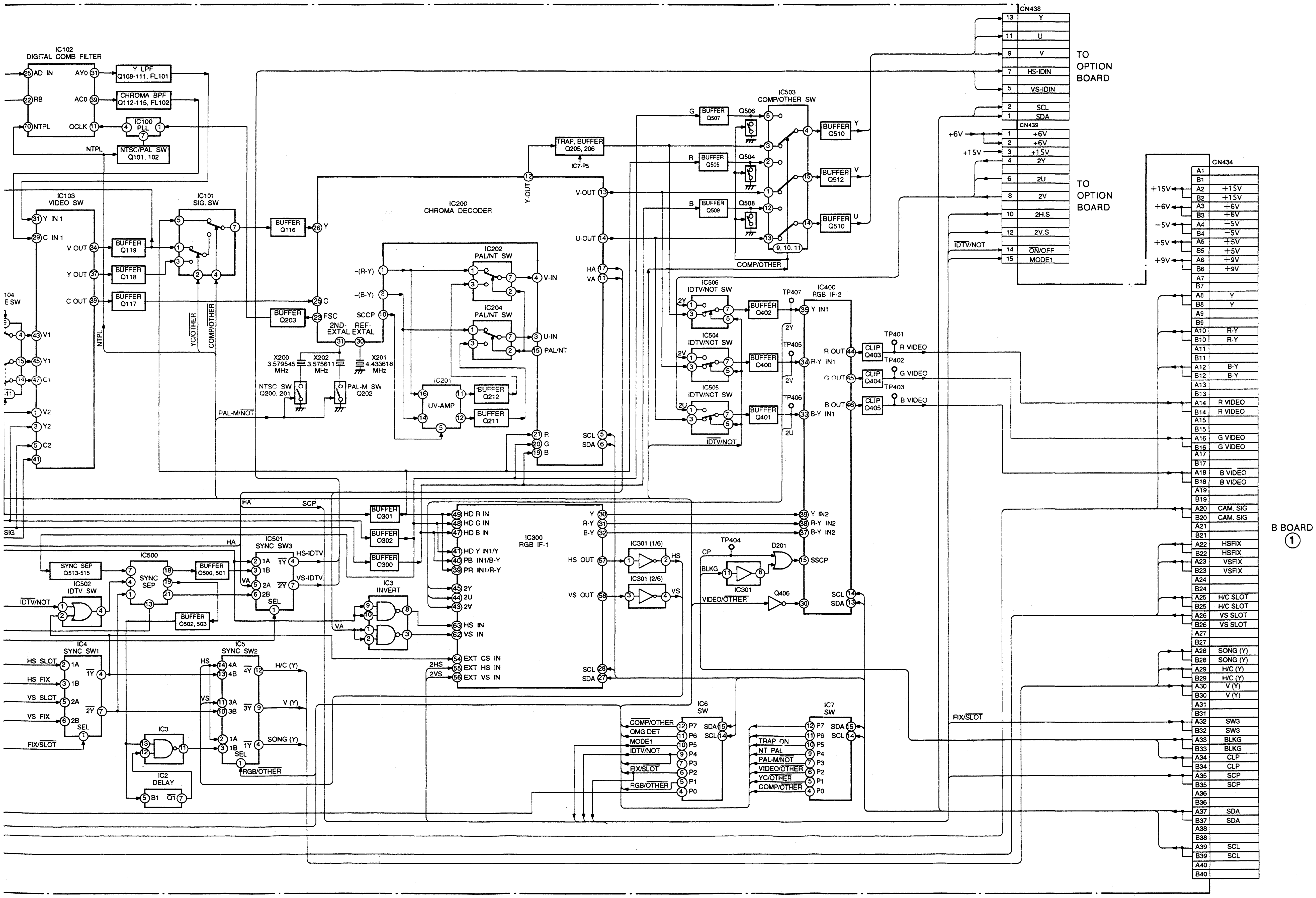
- **B BOARD Block Diagrams**


B
CN432
+15V
+6V
-5V
+5V
+9V
Y
R-Y
B-Y
R VIDEO
G VIDEO
B VIDEO
CAM. SIG
BA BOARD
①
HSFIX
VSFIX
H/C SLOT
VS SLOT
E1
E2
E3
SONG (Y)
H/C (Y)
VS (Y)
SW3
BLKG
CLP
CLAMP-P
SCP
SDA
SCL
CN435
OPEN
R TERM
75
CN436
G TERM
CN437
B TERM
TB500
R/R-Y/Pr
G/Y
B/B-Y/Pb
SYNC/HD
VD
INPUT A
CN438
1K
H/C TERM
CN439
V TERM
IC613
R AMP
R M.OUT
IC614
G AMP
G M.OUT
IC615
B AMP
B M.OUT
IC616
IC516
FIX/SLOT SW
IC517
FIX/SLOT SW
IC518
FIX/SLOT SW
Q520
C-V. FIX VIDEO/OTHER
SW 3
FIXRGB/OTHER
IC501
FIX VIDEO/OTHER SW
IC506
FIX VIDEO/OTHER SW
IC510
FIX VIDEO/OTHER SW
BUFFER Q500
BUFFER Q502
BUFFER Q504
R-Y
Y
B-Y
C-V. FIXVIDEO/OTHER
S. FIX VIDEO/OTHER
IC502
RGB/OTHER SW
IC507
RGB/OTHER SW
IC511
RGB/OTHER SW
R VIDEO
G VIDEO
B VIDEO
RGB/OTHER
IC600
RGB/TEST SW
IC602
RGB/TEST SW
IC603
RGB/TEST SW
TEST/RGB
CUTOFF-R
CUTOFF-G
CUTOFF-B
IC503 (1/2)
CLAMP
IC503 (2/2)
CLAMP
IC508 (1/2)
CLAMP
Q501
CLAMP SW
Q503
CLAMP SW
Q508
CLAMP SW
CLAMP-P
IC504
R MOD
IC509
G MOD
IC513
B MOD
GAM-R
GAM-G
GAM-B
IC604
GAM ADJ
R. IN
R. CTL
R. OUT
G. IN
G. CTL
G. OUT
B. IN
B. CTL
B. OUT
CLAMP
IC618
CP INVERT
CLAMP-P
IC601
CONTRAST ADJ
R. DRV
G. DRV
B. DRV
OSD-R
OSD-G
OSD-B
OSD-V
R. OSD
G. OSD
B. OSD
V. OSD
R. IN
G. IN
B. IN
R. OUT
G. OUT
B. OUT
CONT
OSD. CONT
CLAMP
BLANK
OSD DRV
IC512 (2/2)
BUFFER
IC515
SYNC SW
H/C BUFFER Q506
H/C DET Q505, 507
V BUFFER Q512
V DET Q511, 513
IC512 (1/2)
BUFFER
H/C BUFFER Q514
IC514
HS SEP
VS FIX
FIXRGB/OTHER
+5V
FIXRGB/OTHER SW Q517-519
CN440
HS SEP
HS FIX
HS NORM
HS BUFFER Q515, 516
HS FIX
IC519 (1/2)
BUFFER
TEST
IC520
SAMPLE HOLD
IC521
SYNC MIX
IC519 (2/2)
BUFFER
TEST SIG BUFFER Q604
RV501
IC522
ADD
VD
HD
CLAMP-P
ABL LNK/OFF
TP100
SUB PIC AMP Q105, 106
SUB PIC
BUFFER Q107, 109
PIC AMP Q103, 104
PIC
IC115
ABL AMP
SIZE-ABL
ABL CONT
RV101
ABL ADJ
IC121
ABL NET SW
ABL NET
ABL AMP Q108, 110, 116
IC113
AMP
BUFFER Q115
ABL
TP101
IC114 (2/2)
INVERT AMP
MAX DET Q111-114
ABL IK-R
ABL IK-G
ABL IK-B
IC114 (1/2)
MIXING AMP
TP102
IC118 (1/2)
IK PROT DET
IK PROT
IC116
DAC
RBG/OTHER
S. FIX VIDEO/OTHER
TEST/RGB
BRT
ABL CONT
GAM-B
GAM-G
GAM-R
SW3
SW2
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
SCL
SDA
IC117
DAC
ABL LNK/OFF
CUTOFF-B
OSD DRV
PIC
DRV-B
DRV-G
DRV-R
IC112
DAC
FIXRGB/NOT
FIXVIDEO/OTHER
ON/OFF (R)
ON/OFF (G)
SUB PIC
SIZE-ABL
BKG (B)
BKG (G)
BKG (R)

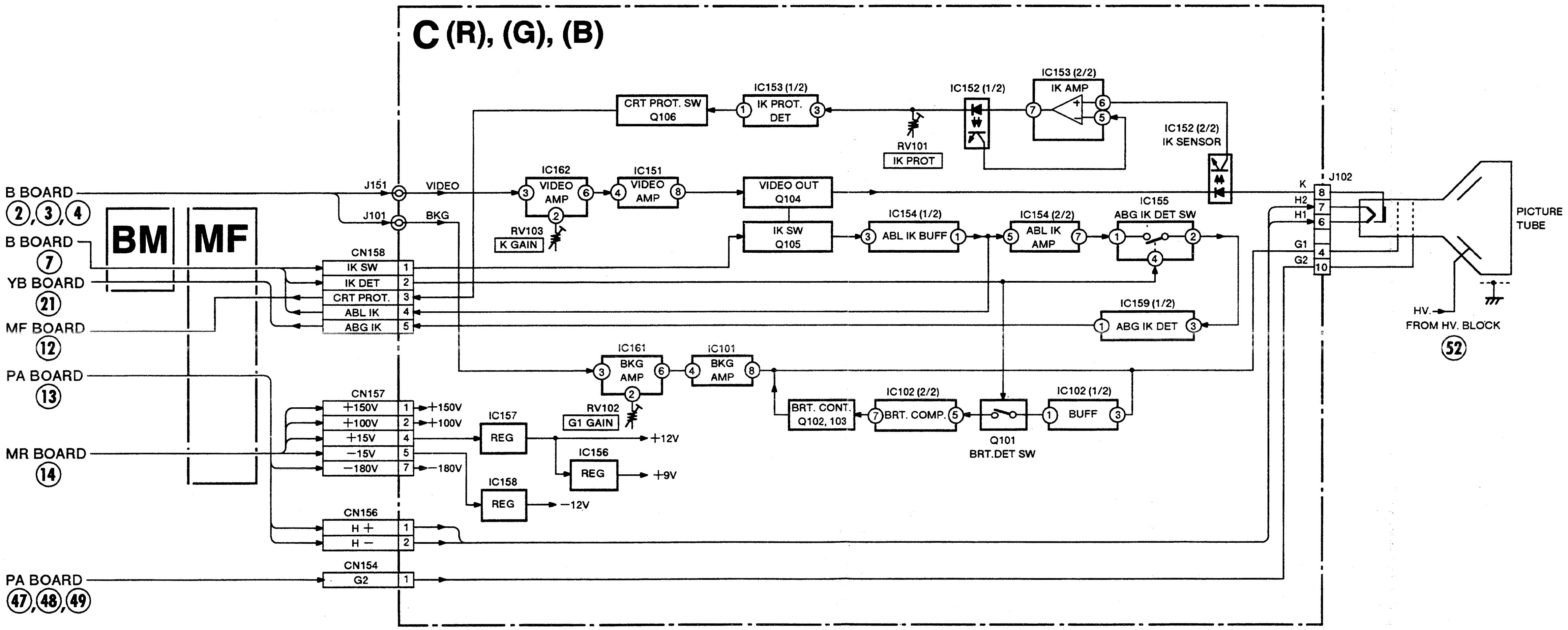

BM
MF
DM
QM
CN431
IC120 (1/2)
BRT
INVERT
IC100
IC119 (1/2)
BRIGHT ADJ
IC105 (1/2)
MIX AMP
IC108
LIMIT R AMP
LIMIT R
DRV R
BKG (R)
BKG R
CUTOFF (R)
CUTOFF SW Q101
DC BIAS
IC101
IC119 (2/2)
IC106 (1/2)
IC109
LIMIT G AMP
LIMIT G
DRV G
BKG (G)
BKG G
CUTOFF (G)
CUTOFF SW Q100
IC102
IC120 (1/2)
IC107 (2/2)
IC110
LIMIT B AMP
LIMIT B
DRV B
BKG (B)
BKG B
IC107 (1/2)
CUTOFF (B)
CUTOFF SW Q102
IC606
5 V REG
IC608
12 V REG
IC609, 611
9 V REG
IC610
-12 V REG
IC612
-5 V REG
IC607
PROTECT DET
Q605
5 V
12 V
9 V
-12 V
-5 V
6 V
+15 V
-15 V
-6 V
C604
R. OUT
G. OUT
B. OUT
CLAMP
IC601
CONTRAST ADJ
R. DRV
G. DRV
B. DRV
RV601
RV602
RV603
RV600
SUB BRT
DRV-R
DRV-G
DRV-B
OSD-R
OSD-G
OSD-B
OSD-V
R. OSD
G. OSD
B. OSD
V. OSD
R. IN
G. IN
B. IN
CONT
OSD. CONT
CLAMP
BLANK
IC617
CLAMP-P
OSD DRV
IC700
BUFFER Q702, 706, 707, 767
R AMP
R BUFFER Q703-705
BUFFER Q752
BLANK SW Q760, 761
BKG. SW Q750, 751, 757
LIMITER Q753, 754, 764, 766
IC750
AMP
BUFFER Q755, 759, 763
RV750
R PED CONT
BUFFER Q756
BKG. SW Q758, 762
LIMIT R
J700 R VIDEO
J750 BKG (R)
C (R) BOARD
IC800
BUFFER Q802, 806, 807, 867
G AMP
G BUFFER Q803, 804, 805
J800 G VIDEO
BUFFER Q852
BLANK SW Q860, 861
BKG. SW Q850, 851, 857
LIMITER Q853, 854, 864, 866
IC850
BUFFER Q855, 859, 863
J850 BKG (G)
C (G) BOARD
BUFFER Q856
BKG. SW Q858, 862
RV850
G PED CONT
LIMIT G
IC900
BUFFER Q902, 906, 907, 967
B AMP
B BUFFER Q903, 904, 905
J900 B VIDEO
BUFFER Q952
BLANK SW Q958, 961
BKG. SW Q950, 951, 954
LIMITER Q955, 956, 964, 966
IC950
BUFFER Q959, 960, 963
J950 BKG (B)
C (B) BOARD
BUFFER Q953
BKG. SW Q957, 962
RV950
B PED CONT
LIMIT B
IC619
BKG. P AMP Q608, 609
BKG-P
BLK G
SUB PIC
PIC
SIZE-ABL
ABL CONT
RV101
ABL ADJ
BUFFER Q115
ABL
MAX DET Q111-114
ABL IK-R
ABL IK-G
ABL IK-B
F-V
IK PROT
IC103 (1/2)
F. F.
IC104
BKG-P GEN.
CLR
CLK
QE
QD
QB
LEVEL SHIFT Q606, 607, 651
IK. DET
IC111
IC605
IK. SW
VD
HD
F-V
SUB+5V
-6V
+6V
-15V
+15V
A1 B1 C1
A2 SUB+5V
B2 SUB+5V
C2 CAM. SIG
A3 -6V
B3 -6V
C3 -6V
A4 B4 C4
A5 +6V
B5 +6V
C5 +6V
A6 -15V
B6 -15V
C6 -15V
A7 B7 C7
A8 +15V
B8 +15V
C8 +15V
A9 B PROT
B9 IK PROT
C9 HD
A10
B10 VD
C10 F-V
A11 ABL
B11 IK SW
C11
A12 IKDET
B12 C12
A13 ABLIK R
B13
C13 ABLIK G
A14
B14 ABLIK B
C14 A15 B15
C15 ABL NET
A16 B16
C16 BLK G
A17 R MOD
B17
C17 CLAMP P
A18
B18 G MOD
C18 SCL
A19 B MOD
B19
C19 SDA
A20
B20 SCP
C20
A21 H/C SLOT
B21
C21 H/C (Y)
A22
B22 SONG (Y)
C22
A23 VS SLOT
B23
C23 VS (Y)
A24
B24 OSD-R
C24 A25
B25 OSD-G
C25
A26 HS MON OUT
B26
C26 OSD-B
A27
B27 OSD-V
C27
A28 VS MON OUT
B28
C28 TEST
A29
B29 R MON OUT
C29
A30 B MON OUT
B30
C30 G MON OUT
A31
B31 R (SLOT)
C31
A32 B (SLOT)
B32
C32 G (SLOT)
MR BOARD ⑤
D BOARD (2/2) ⑥
YB BOARD ⑨
PA BOARD ⑧
C (R, G, B)BOARD ⑦
YA, YB BOARD (53)
YB BOARD ⑩
YA BOARD ⑪
TO IFB-40 BOARD (INTERFACE)

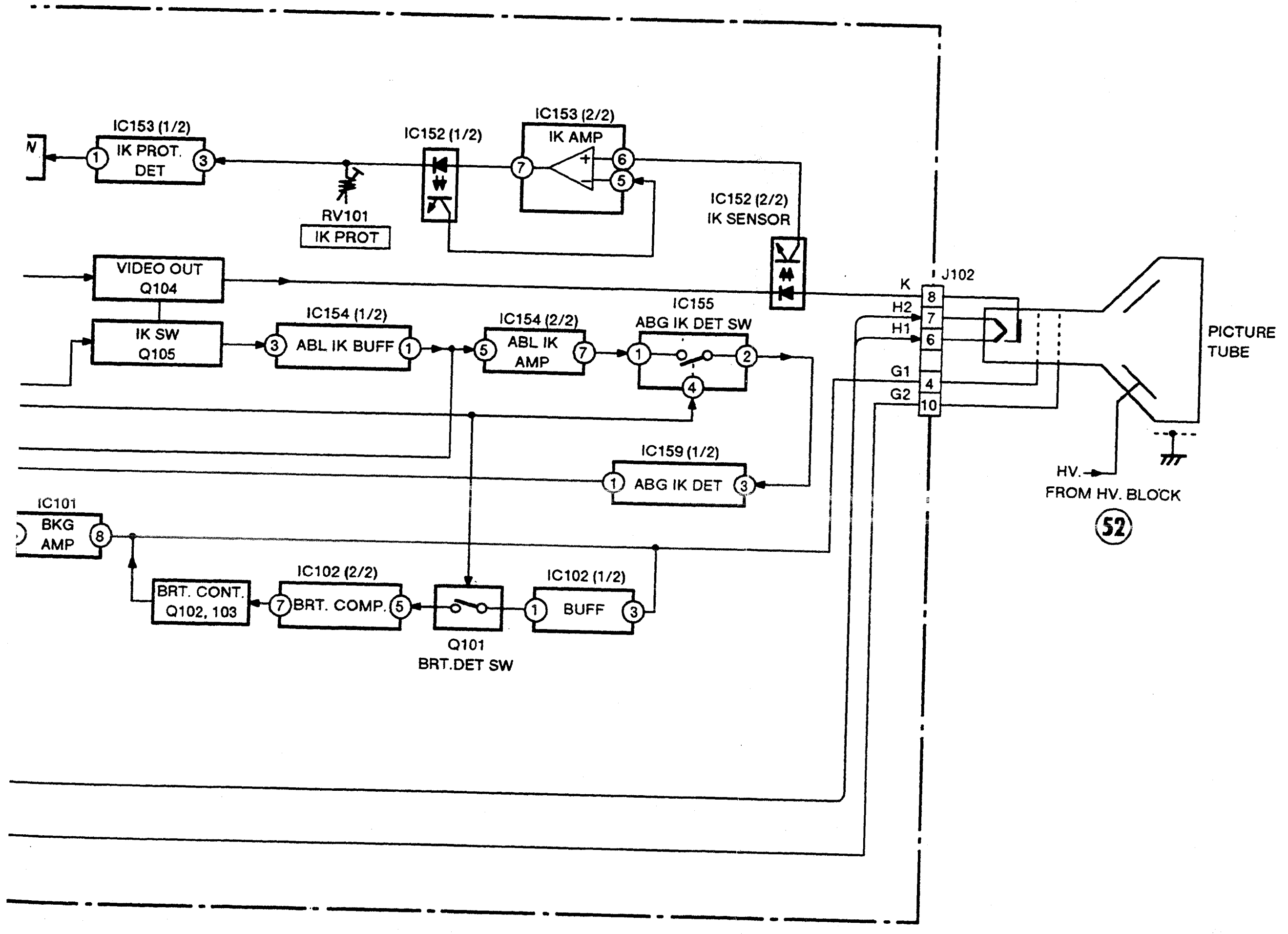
• BA, BC and BH BOARD Block Diagrams


BA
IC102
DIGITAL COMB FILTER
V LPF
Q105, 106, FL100
CLAMP
Q103, 104, 107
AD IN
RB
NTPL
AYO
ACO
OCLK
Y LPF
Q108-111, FL101
CHROMA BPF
Q112-115, FL102
IC100
PLL
NTPL
NTSC/PAL SW
Q101, 102
IC103
VIDEO SW
Y IN 1
C IN 1
V OUT
Y OUT
C OUT
BUFFER
Q119
BUFFER
Q118
BUFFER
Q117
IC101
SIG. SW
BUFFER
Q116
Y
-(R-Y)
-(B-Y)
C
BUFFER
Q203
FSC
SCCP
2ND-EXTAL
REF-EXTAL
X200
3.579545 MHz
X202
3.575611 MHz
X201
4.433618 MHz
NTSC SW
Q200, 201
PAL-M SW
Q202
PAL-M/NOT
YC/OTHER
COMP/OTHER
NTPL
IC104
MUTE SW
P7
P6
V1
Y1
C1
V2
Y2
C2
CN437
CN435
VIDEO
Y1
C1
QMG DET
BC
TB1001
TB1002
VIDEO
OUT
IN
Y IN
C IN
S VIDEO
J1001
IN
J1002
OUT
(VPH-G70Q/G70QM, IFB-G70QMG)
R-Y
B-Y
Y
CAM SIG
HA
SCP
BUFFER
Q301
BUFFER
Q302
BUFFER
Q300
IC501
SYNC SW3
HS-IDTV
VS-IDTV
1A
1B
2A
2B
SEL
IC500
SYNC SEP
SYNC SEP
Q513-515
BUFFER
Q500, 501
IC502
IDTV SW
IDTV/NOT
BUFFER
Q502, 503
VA
IC3
INVERT
IC1 SWITCH
TO 9141
HD
CLP.P
CONT
CONT
BH
IC4
SYNC SW1
HS SLOT
HS FIX
VS SLOT
VS FIX
FIX/SLOT
IC3
IC2
DELAY
B1
Q1
IC5
SYNC SW2
HS
VS
H/C (Y)
V (Y)
SONG (Y)
RGB/OTHER

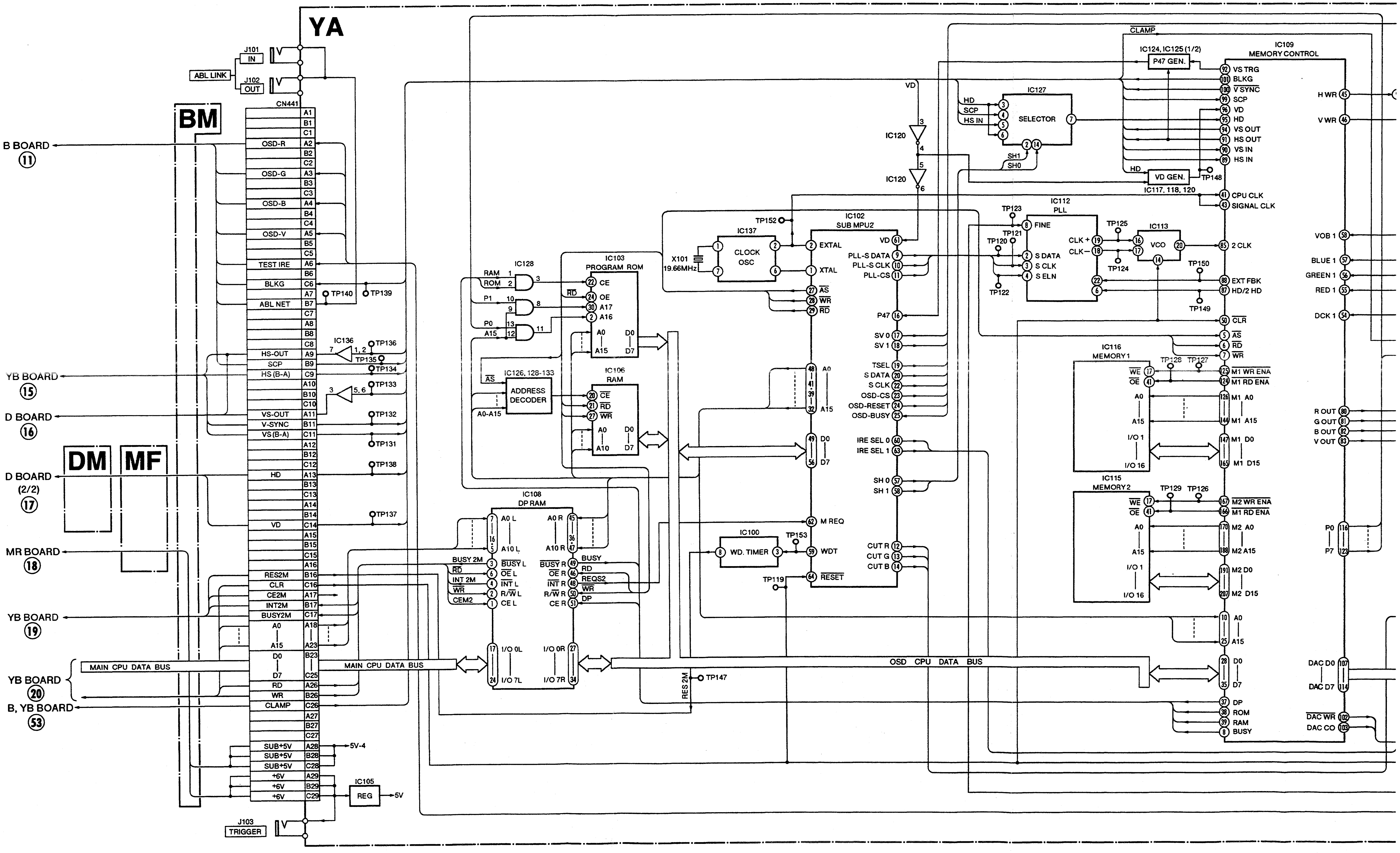

IC102
DIGITAL COMB FILTER
AD IN
AY0
RB
AC0
NTPL
OCLK
Y LPF
Q108-111, FL101
CHROMA BPF
Q112-115, FL102
IC100
PLL
NTPL
NTSC/PAL SW
Q101, 102
IC103
VIDEO SW
Y IN 1
C IN 1
V OUT
Y OUT
C OUT
BUFFER
Q119
BUFFER
Q118
BUFFER
Q117
104
E SW
V1
Y1
C1
V2
Y2
C2
SIG
IC101
SIG. SW
YC/OTHER
COMP/OTHER
BUFFER
Q116
BUFFER
Q203
IC200
CHROMA DECODER
FSC
2ND- REF-
EXTAL EXTAL
SCCP
X200
3.579545
MHz
X202
3.575611
MHz
X201
4.433618
MHz
NTSC SW
Q200, 201
PAL-M SW
Q202
PAL-M/NOT
TRAP, BUFFER
Q205, 206
IC7-P5
Y-OUT
V-OUT
U-OUT
HA
VA
SCL
SDA
–(R-Y)
–(B-Y)
IC202
PAL/NT SW
V-IN
IC204
PAL/NT SW
U-IN
PAL/NT
IC201
UV-AMP
BUFFER
Q212
BUFFER
Q211
R
G
B
BUFFER
Q507
BUFFER
Q505
BUFFER
Q509
Q506
Q504
Q508
IC503
COMP/OTHER SW
BUFFER
Q510
BUFFER
Q512
BUFFER
Q510
9, 10, 11
COMP/OTHER
IC506
IDTV/NOT SW
IC504
IDTV/NOT SW
IC505
IDTV/NOT SW
2Y
2V
2U
BUFFER
Q402
BUFFER
Q400
BUFFER
Q401
IDTV/NOT
TP407
TP405
TP406
IC400
RGB IF-2
Y IN1
R-Y IN1
B-Y IN1
R OUT
G OUT
B OUT
CLIP
Q403
CLIP
Q404
CLIP
Q405
TP401
R VIDEO
TP402
G VIDEO
TP403
B VIDEO
Y IN2
R-Y IN2
B-Y IN2
SSCP
SCL
SDA
CN438
Y
U
V
HS-IDIN
VS-IDIN
SCL
SDA
TO
OPTION
BOARD
CN439
+6V
+6V
+15V
+15V
2Y
2U
2V
2H.S
2V.S
IDTV/NOT
ON/OFF
MODE1
TO
OPTION
BOARD
CN434
+15V
+6V
–5V
+5V
+9V
Y
R-Y
B-Y
R VIDEO
G VIDEO
B VIDEO
CAM. SIG
HSFIX
VSFIX
H/C SLOT
VS SLOT
SONG (Y)
H/C (Y)
V (Y)
SW3
BLKG
CLP
SCP
SDA
SCL
B BOARD
①
HA
SCP
BUFFER
Q301
BUFFER
Q302
BUFFER
Q300
IC300
RGB IF-1
HD R IN
HD G IN
HD B IN
HD Y IN1/Y
PB IN1/B-Y
PR IN1/R-Y
2Y
2U
2V
HS IN
VS IN
EXT CS IN
EXT HS IN
EXT VS IN
2HS
2VS
HS OUT
VS OUT
IC301 (1/6)
HS
IC301 (2/6)
VS
TP404
CP
BLKG
IC301
D201
VIDEO/OTHER
Q406
IC3
INVERT
VA
SYNC SEP
Q513-515
IC500
SYNC
SEP
BUFFER
Q500, 501
IC502
IDTV SW
IDTV/NOT
BUFFER
Q502, 503
IC501
SYNC SW3
1A
1B
2A
2B
SEL
HS-IDTV
VS-IDTV
IC4
SYNC SW1
HS SLOT
HS FIX
VS SLOT
VS FIX
FIX/SLOT
IC3
IC2
DELAY
B1
Q1
IC5
SYNC SW2
HS
VS
4A
4B
3A
3B
H/C (Y)
V (Y)
SONG (Y)
RGB/OTHER
IC6
SW
COMP/OTHER
QMG DET
MODE1
IDTV/NOT
FIX/SLOT
RGB/OTHER
P7
P6
P5
P4
P3
P2
P1
P0
SDA
SCL
IC7
SW
TRAP ON
NT PAL
PAL-M/NOT
VIDEO/OTHER
YC/OTHER
COMP/OTHER
FIX/SLOT

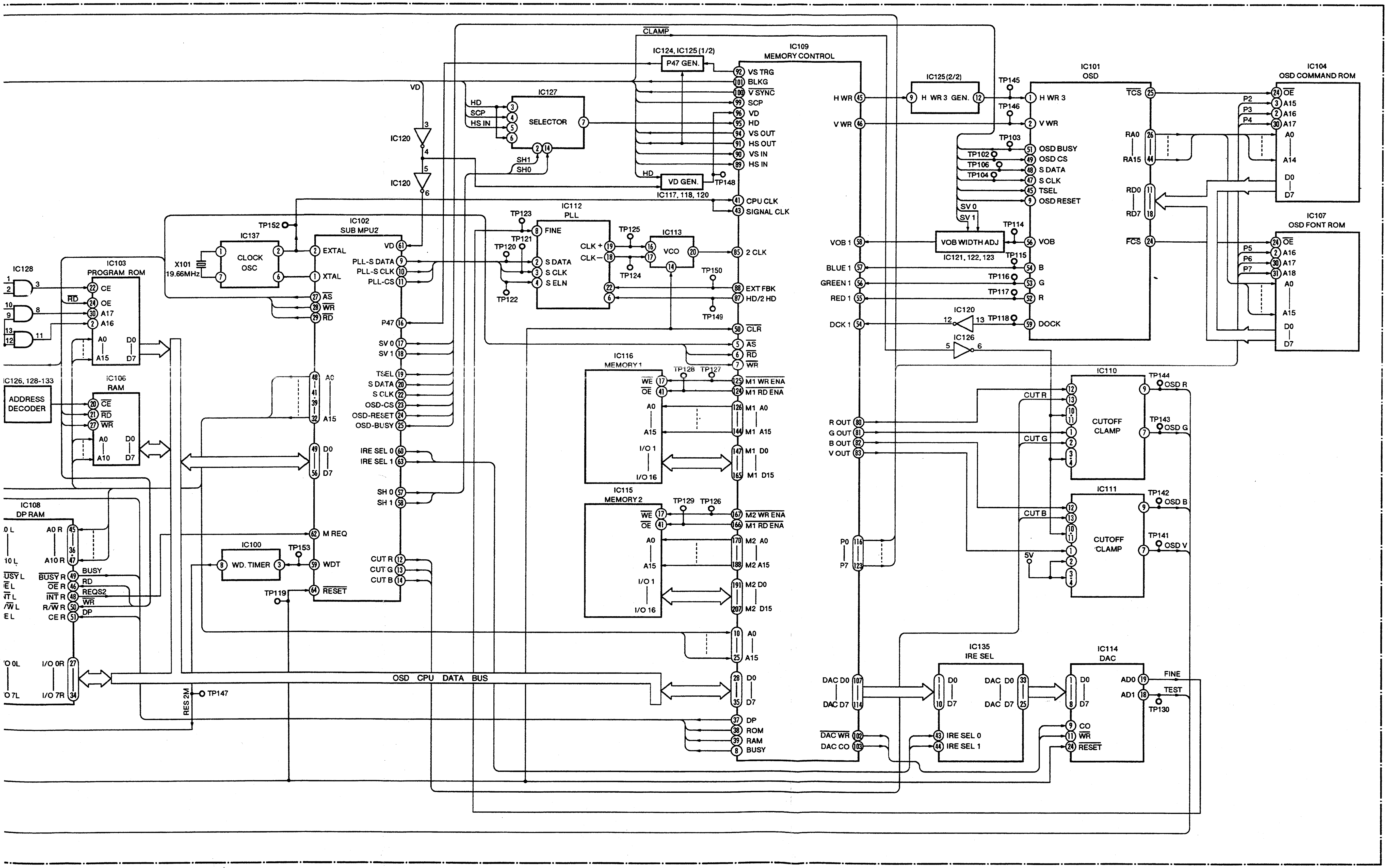
• C BOARD Block Diagrams


C (R), (G), (B)
B BOARD
②,③,④
B BOARD
⑦
YB BOARD
(21)
MF BOARD
⑫
PA BOARD
⑬
MR BOARD
⑭
PA BOARD
(47),(48),(49)
BM
MF
J151
VIDEO
J101
BKG
CN158
IK SW 1
IK DET 2
CRT PROT. 3
ABL IK 4
ABG IK 5
CN157
+150V 1
+100V 2
+15V 4
−15V 5
−180V 7
+150V
+100V
−180V
CN156
H + 1
H − 2
CN154
G2 1
CRT PROT. SW
Q106
IC153 (1/2)
IK PROT.
DET
RV101
IK PROT
IC152 (1/2)
IC153 (2/2)
IK AMP
IC152 (2/2)
IK SENSOR
IC162
VIDEO
AMP
RV103
K GAIN
IC151
VIDEO
AMP
VIDEO OUT
Q104
IK SW
Q105
IC154 (1/2)
ABL IK BUFF
IC154 (2/2)
ABL IK
AMP
IC155
ABG IK DET SW
IC159 (1/2)
ABG IK DET
IC161
BKG
AMP
RV102
G1 GAIN
IC101
BKG
AMP
BRT. CONT.
Q102, 103
IC102 (2/2)
BRT. COMP.
Q101
BRT.DET SW
IC102 (1/2)
BUFF
IC157
REG
+12V
IC156
REG
+9V
IC158
REG
−12V
J102
K 8
H2 7
H1 6
G1 4
G2 10
PICTURE
TUBE
HV.
FROM HV. BLOCK
(52)

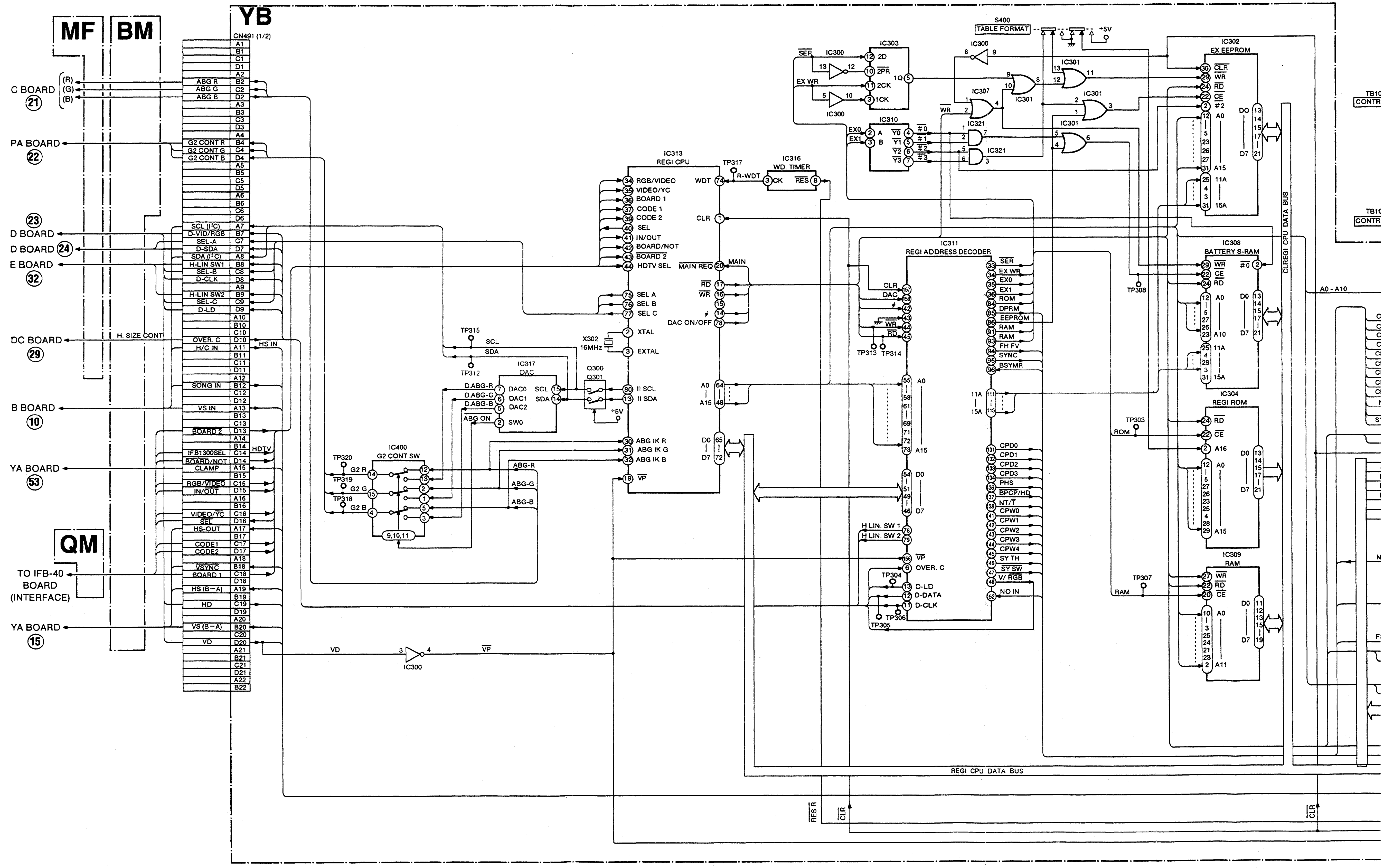

IC153 (1/2)
IK PROT. DET
IC152 (1/2)
IC153 (2/2)
IK AMP
RV101
IK PROT
IC152 (2/2)
IK SENSOR
VIDEO OUT
Q104
IK SW
Q105
IC154 (1/2)
ABL IK BUFF
IC154 (2/2)
ABL IK AMP
IC155
ABG IK DET SW
K
H2
H1
G1
G2
J102
PICTURE TUBE
HV.
FROM HV. BLOCK
52
IC159 (1/2)
ABG IK DET
IC101
BKG AMP
IC102 (2/2)
BRT. CONT.
Q102, 103
BRT. COMP.
Q101
BRT.DET SW
IC102 (1/2)
BUFF

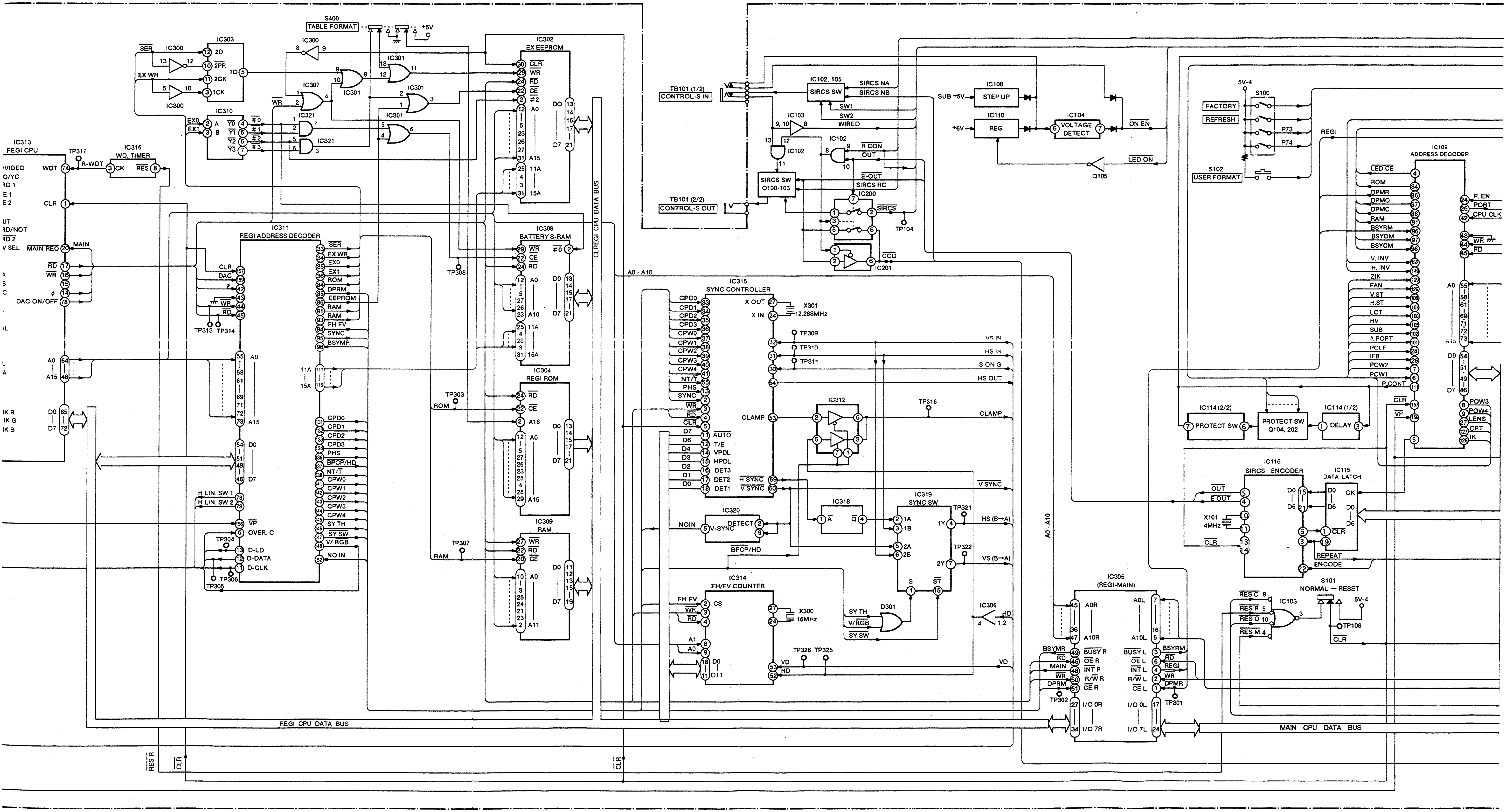
- **YA BOARD Block Diagrams**

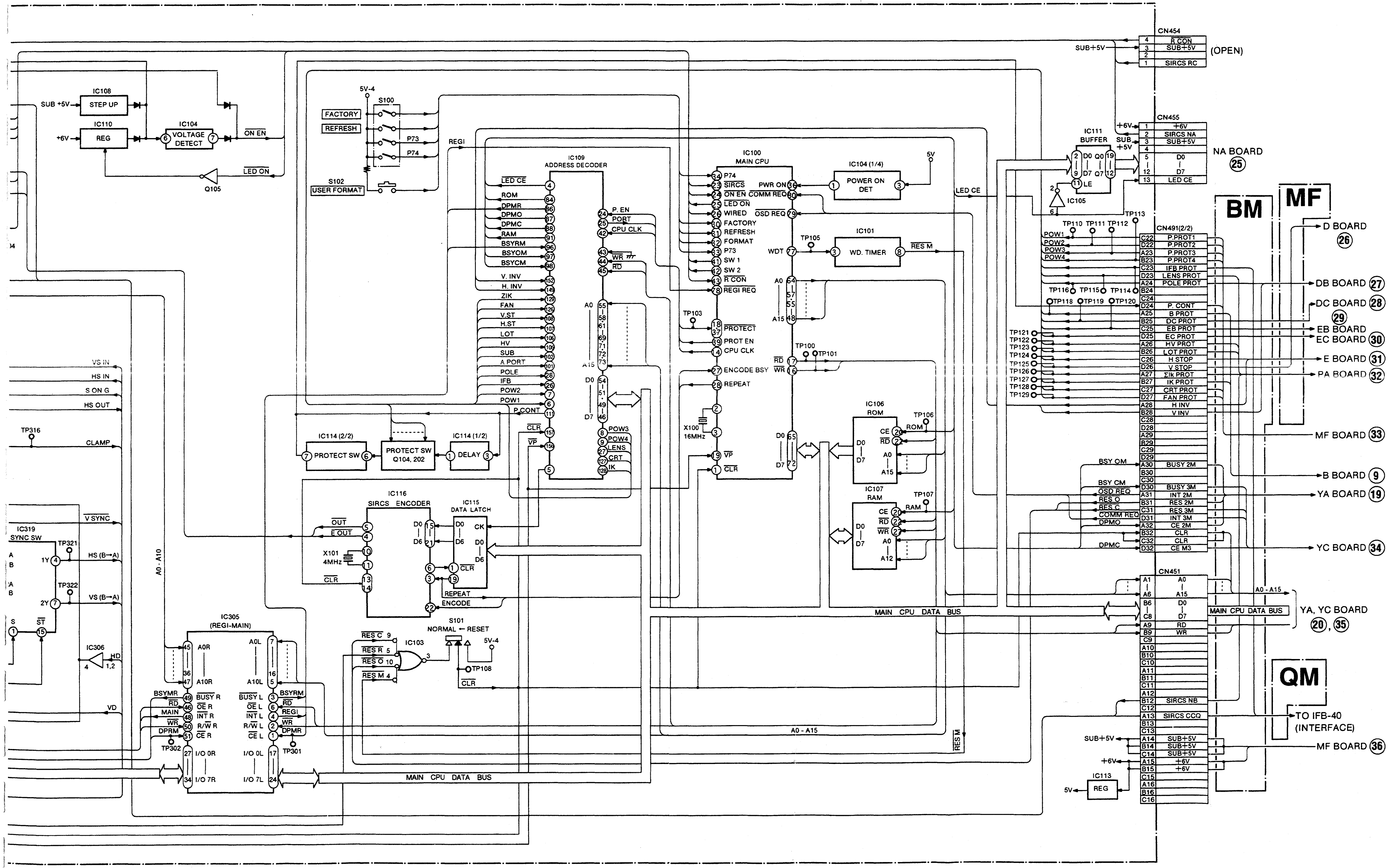

YA
BM
DM
MF
J101 IN
J102 OUT
ABL LINK
CN441
J103 TRIGGER
B BOARD ⑪
YB BOARD ⑮
D BOARD ⑯
D BOARD (2/2) ⑰
MR BOARD ⑱
YB BOARD ⑲
YB BOARD ⑳
B, YB BOARD (53)
OSD-R
OSD-G
OSD-B
OSD-V
TEST IRE
BLKG
ABL NET
HS-OUT
SCP
HS (B-A)
VS-OUT
V-SYNC
VS (B-A)
HD
VD
RES2M
CLR
CE2M
INT2M
BUSY2M
A0
A15
D0
D7
RD
WR
CLAMP
SUB+5V
+6V
5V-4
MAIN CPU DATA BUS
IC105 REG
+5V
IC136
TP140
TP139
TP136
TP135
TP134
TP133
TP132
TP131
TP138
TP137
IC128
RAM
ROM
P1
P0
A15
IC103 PROGRAM ROM
CE
OE
A17
A16
IC126, 128-133 ADDRESS DECODER
AS
A0-A15
IC106 RAM
IC108 DP RAM
BUSY 2M
INT 2M
CEM2
A0 L
A10 L
BUSY L
OE L
INT L
R/W L
CE L
A0 R
A10 R
BUSY R
OE R
INT R
R/W R
CE R
BUSY
REQS2
DP
I/O 0L
I/O 7L
I/O 0R
I/O 7R
RES 2M
TP147
X101 19.66MHz
IC137 CLOCK OSC
TP152
IC102 SUB MPU2
EXTAL
XTAL
VD
PLL-S DATA
PLL-S CLK
PLL-CS
P47
SV 0
SV 1
TSEL
S DATA
S CLK
OSD-CS
OSD-RESET
OSD-BUSY
IRE SEL 0
IRE SEL 1
SH 0
SH 1
CUT R
CUT G
CUT B
M REQ
WDT
RESET
IC100 WD. TIMER
TP153
TP119
OSD CPU DATA BUS
IC120
IC127 SELECTOR
HD
SCP
HS IN
SH1
SH0
IC112 PLL
FINE
S DATA
S CLK
S ELN
CLK +
CLK −
TP123
TP121
TP120
TP122
TP125
TP124
IC113 VCO
TP150
TP149
IC124, IC125 (1/2) P47 GEN.
CLAMP
VD GEN.
IC117, 118, 120
TP148
IC109 MEMORY CONTROL
VS TRG
BLKG
V SYNC
SCP
VD
HD
VS OUT
HS OUT
VS IN
HS IN
CPU CLK
SIGNAL CLK
2 CLK
EXT FBK
HD/2 HD
CLR
AS
RD
WR
M1 WR ENA
M1 RD ENA
M1 A0
M1 A15
M1 D0
M1 D15
M2 WR ENA
M1 RD ENA
M2 A0
M2 A15
M2 D0
M2 D15
A0
A15
D0
D7
DP
ROM
RAM
BUSY
IC116 MEMORY1
IC115 MEMORY2
WE
OE
I/O 1
I/O 16
TP128
TP127
TP129
TP126
H WR
V WR
VOB 1
BLUE 1
GREEN 1
RED 1
DCK 1
R OUT
G OUT
B OUT
V OUT
P0
P7
DAC D0
DAC D7
DAC WR
DAC CO


CLAMP
IC124, IC125 (1/2)
P47 GEN.
IC109
MEMORY CONTROL
VS TRG
BLKG
V SYNC
SCP
VD
HD
VS OUT
HS OUT
VS IN
HS IN
VD GEN.
IC117, 118, 120
TP148
CPU CLK
SIGNAL CLK
2 CLK
EXT FBK
HD/2 HD
CLR
AS
RD
WR
M1 WR ENA
M1 RD ENA
M1 A0
M1 A15
M1 D0
M1 D15
M2 WR ENA
M1 RD ENA
M2 A0
M2 A15
M2 D0
M2 D15
A0
A15
D0
D7
DP
ROM
RAM
BUSY
H WR
V WR
VOB 1
BLUE 1
GREEN 1
RED 1
DCK 1
R OUT
G OUT
B OUT
V OUT
P0
P7
DAC D0
DAC D7
DAC WR
DAC CO
VD
IC127
SELECTOR
HD
SCP
HS IN
SH1
SH0
IC120
IC112
PLL
FINE
S DATA
S CLK
S ELN
CLK+
CLK−
TP123
TP121
TP120
TP122
TP124
TP125
IC113
VCO
TP150
TP149
TP152
IC137
CLOCK OSC
X101
19.66MHz
IC102
SUB MPU2
EXTAL
XTAL
AS
WR
RD
VD
PLL-S DATA
PLL-S CLK
PLL-CS
P47
SV 0
SV 1
TSEL
S DATA
S CLK
OSD-CS
OSD-RESET
OSD-BUSY
IRE SEL 0
IRE SEL 1
SH 0
SH 1
CUT R
CUT G
CUT B
A0
A15
D0
D7
M REQ
WDT
RESET
IC100
WD. TIMER
TP153
TP119
IC128
IC103
PROGRAM ROM
CE
OE
A17
A16
A0
A15
D0
D7
RD
IC126, 128-133
ADDRESS DECODER
IC106
RAM
CE
RD
WR
A0
A10
D0
D7
IC108
DP RAM
A0 R
A10 R
BUSY
BUSY R
OE R
INT R
R/W R
CE R
RD
REQS2
WR
DP
I/O 0R
I/O 7R
OSD CPU DATA BUS
RES 2M
TP147
IC116
MEMORY 1
WE
OE
A0
A15
I/O 1
I/O 16
TP128
TP127
IC115
MEMORY 2
TP129
TP126
IC125 (2/2)
H WR 3 GEN.
TP145
TP146
TP103
TP102
TP106
TP104
SV 0
SV 1
VOB WIDTH ADJ
IC121, 122, 123
TP114
TP115
TP116
TP117
TP118
IC120
IC126
IC101
OSD
H WR 3
V WR
OSD BUSY
OSD CS
S DATA
S CLK
TSEL
OSD RESET
VOB
B
G
R
DOCK
TCS
RA0
RA15
RD0
RD7
FCS
IC104
OSD COMMAND ROM
OE
A15
A16
A17
A0
A14
D0
D7
P2
P3
P4
IC107
OSD FONT ROM
OE
A16
A17
A18
A0
A15
D0
D7
P5
P6
P7
IC110
CUTOFF CLAMP
CUT R
CUT G
TP144
OSD R
TP143
OSD G
IC111
CUTOFF CLAMP
CUT B
5V
TP142
OSD B
TP141
OSD V
IC135
IRE SEL
D0
D7
IRE SEL 0
IRE SEL 1
DAC D0
DAC D7
IC114
DAC
D0
D7
CO
WR
RESET
AD0
AD1
FINE
TEST
TP130

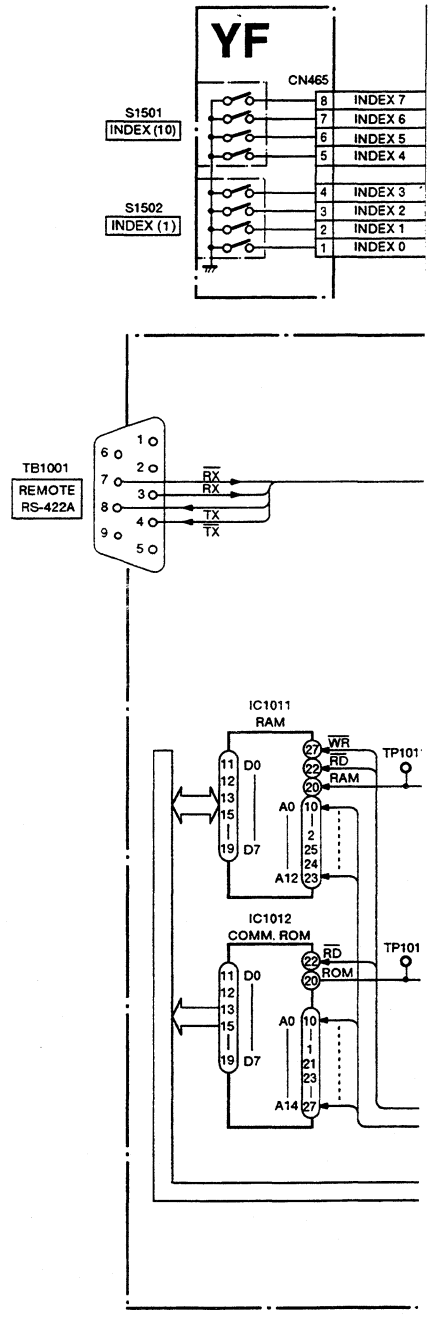
• YB BOARD Block Diagrams


MF
BM
YB
QM
CN491 (1/2)
C BOARD ㉑
(R)
(G)
(B)
PA BOARD ㉒
D BOARD ㉓
D BOARD ㉔
E BOARD ㉜
DC BOARD ㉙
H. SIZE CONT
B BOARD ⑩
YA BOARD ㊸
TO IFB-40 BOARD (INTERFACE)
YA BOARD ⑮
ABG R
ABG G
ABG B
G2 CONT R
G2 CONT G
G2 CONT B
SCL (I²C)
D-VID/RGB
SEL-A
D-SDA
SDA (I²C)
H-LIN SW1
SEL-B
D-CLK
H-LIN SW2
SEL-C
D-LD
OVER. C
H/C IN
HS IN
SONG IN
VS IN
BOARD 2
HDTV
IFB1300SEL
BOARD/NOT
CLAMP
RGB/VIDEO
IN/OUT
VIDEO/YC
SEL
HS-OUT
CODE1
CODE2
VSYNC
BOARD 1
HS (B−A)
HD
VS (B−A)
VD
VP
IC300
IC313
REGI CPU
RGB/VIDEO
VIDEO/YC
BOARD 1
CODE 1
CODE 2
SEL
IN/OUT
BOARD/NOT
BOARD 2
HDTV SEL
SEL A
SEL B
SEL C
XTAL
EXTAL
X302
16MHz
II SCL
II SDA
ABG IK R
ABG IK G
ABG IK B
WDT
CLR
MAIN REQ
MAIN
RD
WR
DAC ON/OFF
A0
A15
D0
D7
TP317
R-WDT
IC316
WD. TIMER
CK
RES
TP315
SCL
SDA
TP312
IC317
DAC
D.ABG-R
D.ABG-G
D.ABG-B
ABG ON
DAC0
DAC1
DAC2
SW0
Q300
Q301
+5V
IC400
G2 CONT SW
TP320
TP319
TP318
G2 R
G2 G
G2 B
9,10,11
ABG-R
ABG-G
ABG-B
S400
TABLE FORMAT
IC303
SER
EX WR
2D
2PR
2CK
1CK
1Q
IC310
EX0
EX1
A
B
Y0
Y1
Y2
Y3
#0
#1
#2
#3
IC307
IC321
IC301
WR
IC302
EX EEPROM
CLR
WR
RD
CE
#2
A0
A15
11A
15A
D0
D7
IC311
REGI ADDRESS DECODER
CLR
DAC
WR
RD
TP313
TP314
SER
EX WR
EX0
EX1
ROM
DPRM
EEPROM
RAM
FH FV
SYNC
BSYMR
11A
15A
CPD0
CPD1
CPD2
CPD3
PHS
BPCP/HD
NT/T
CPW0
CPW1
CPW2
CPW3
CPW4
SY TH
SY SW
V/ RGB
NO IN
H LIN. SW 1
H LIN. SW 2
VP
OVER. C
TP304
D-LD
D-DATA
D-CLK
TP306
TP305
IC308
BATTERY S-RAM
TP308
#0
IC304
REGI ROM
TP303
ROM
A16
IC309
RAM
TP307
RAM
A11
CLREGI CPU DATA BUS
REGI CPU DATA BUS
A0 - A10
RES R
CLR
CLR
TB1
CONTR

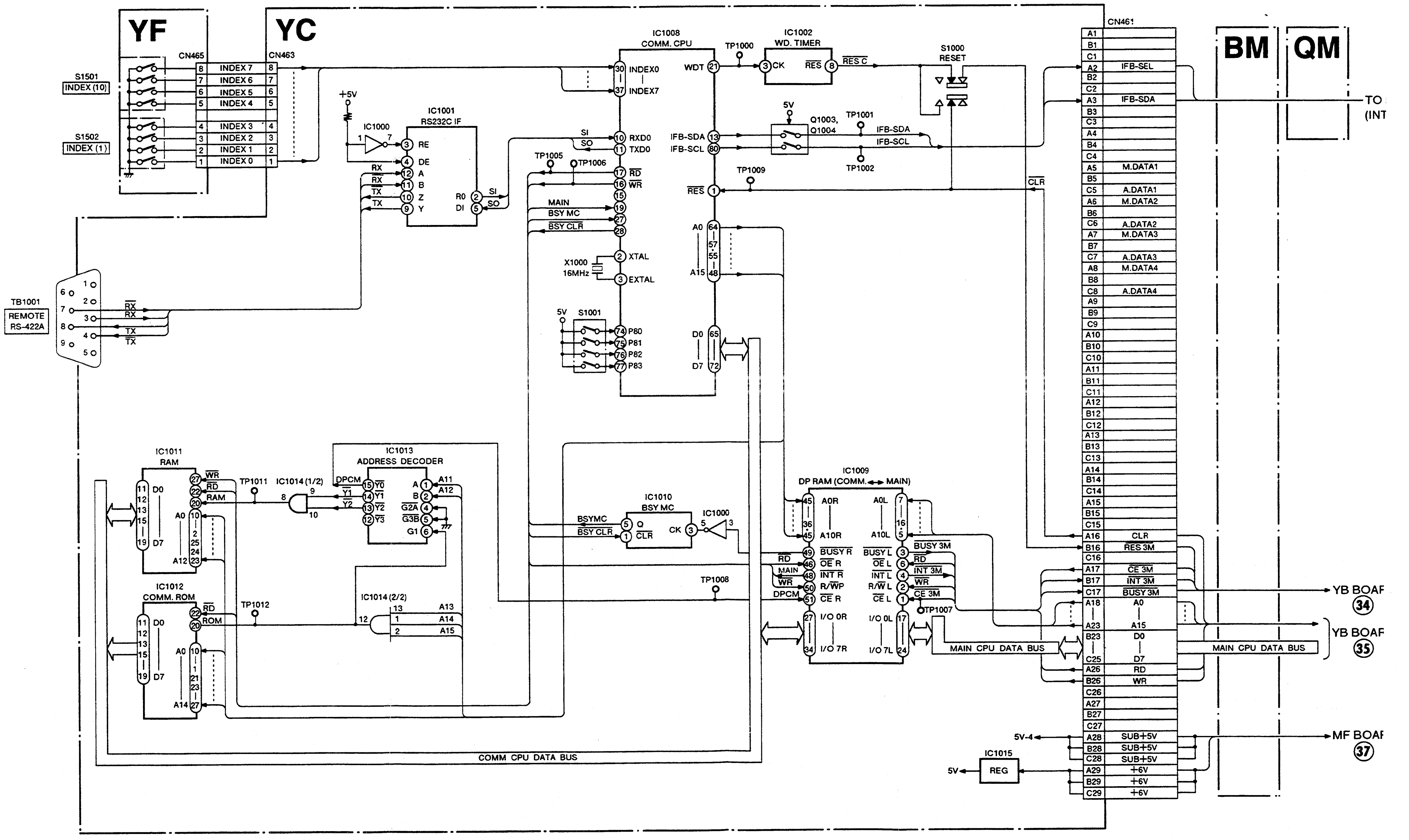

S400
TABLE FORMAT
+5V
IC303
IC300
SER
EX WR
2D
2PR
2CK
1CK
1Q
IC307
IC301
IC321
IC310
EX0
EX1
IC302
EX EEPROM
CLR
WR
RD
CE
A0
A15
11A
15A
D0
D7
IC313
REGI CPU
TP317
R-WDT
IC316
WD. TIMER
CK
RES
WDT
CLR
MAIN
MAIN REQ
DAC
DAC ON/OFF
IC311
REGI ADDRESS DECODER
EX WR
EX0
EX1
ROM
DPRM
EEPROM
RAM
FH FV
SYNC
BSYMR
CPD0
CPD1
CPD2
CPD3
PHS
BPCP/HD
NT/T
CPW0
CPW1
CPW2
CPW3
CPW4
SY TH
SY SW
V/RGB
NO IN
H LIN. SW 1
H LIN. SW 2
VP
OVER. C
D-LD
D-DATA
D-CLK
TP304
TP305
TP306
TP313
TP314
TP308
IC308
BATTERY S-RAM
IC304
REGI ROM
TP303
ROM
IC309
RAM
TP307
A16
CLREGI CPU DATA BUS
REGI CPU DATA BUS
RES R
CLR
A0 - A10
TB101 (1/2)
CONTROL-S IN
TB101 (2/2)
CONTROL-S OUT
IC102, 105
SIRCS SW
SIRCS NA
SIRCS NB
SW1
SW2
WIRED
IC103
IC102
R CON
OUT
E-OUT
SIRCS RC
SIRCS SW
Q100-103
IC200
SIRCS
TP104
CCQ
IC201
IC108
STEP UP
SUB +5V
IC110
REG
+6V
IC104
VOLTAGE DETECT
ON EN
LED ON
Q105
IC315
SYNC CONTROLLER
X OUT
X IN
X301
12.288MHz
TP309
TP310
TP311
VS IN
HS IN
S ON G
HS OUT
CLAMP
IC312
TP316
AUTO
T/E
VPDL
HPDL
DET3
DET2
DET1
H SYNC
V SYNC
IC320
NOIN
V-SYNC
DETECT
BPCP/HD
IC318
IC319
SYNC SW
TP321
TP322
HS (B→A)
VS (B→A)
IC314
FH/FV COUNTER
CS
X300
16MHz
TP326
TP325
VD
HD
D301
SY TH
V/RGB
SY SW
IC306
5V-4
S100
FACTORY
REFRESH
P73
P74
S102
USER FORMAT
REGI
IC109
ADDRESS DECODER
LED CE
ROM
DPMR
DPMO
DPMC
RAM
BSYRM
BSYOM
BSYCM
V. INV
H. INV
ZIK
FAN
V.ST
H.ST
LOT
HV
SUB
A PORT
POLE
IFB
POW2
POW1
P.CONT
P. EN
PORT
CPU CLK
WR
RD
POW3
POW4
LENS
CRT
IK
IC114 (2/2)
PROTECT SW
Q104, 202
IC114 (1/2)
DELAY
IC116
SIRCS ENCODER
IC115
DATA LATCH
OUT
E OUT
X101
4MHz
REPEAT
ENCODE
S101
NORMAL ← RESET
IC103
RES C
RES R
RES O
RES M
TP108
IC305
(REGI-MAIN)
A0R
A10R
A0L
A10L
BUSY R
OE R
INT R
R/W R
CE R
I/O 0R
I/O 7R
BUSY L
OE L
INT L
R/W L
CE L
I/O 0L
I/O 7L
BSYMR
MAIN
DPRM
TP302
TP301
MAIN CPU DATA BUS

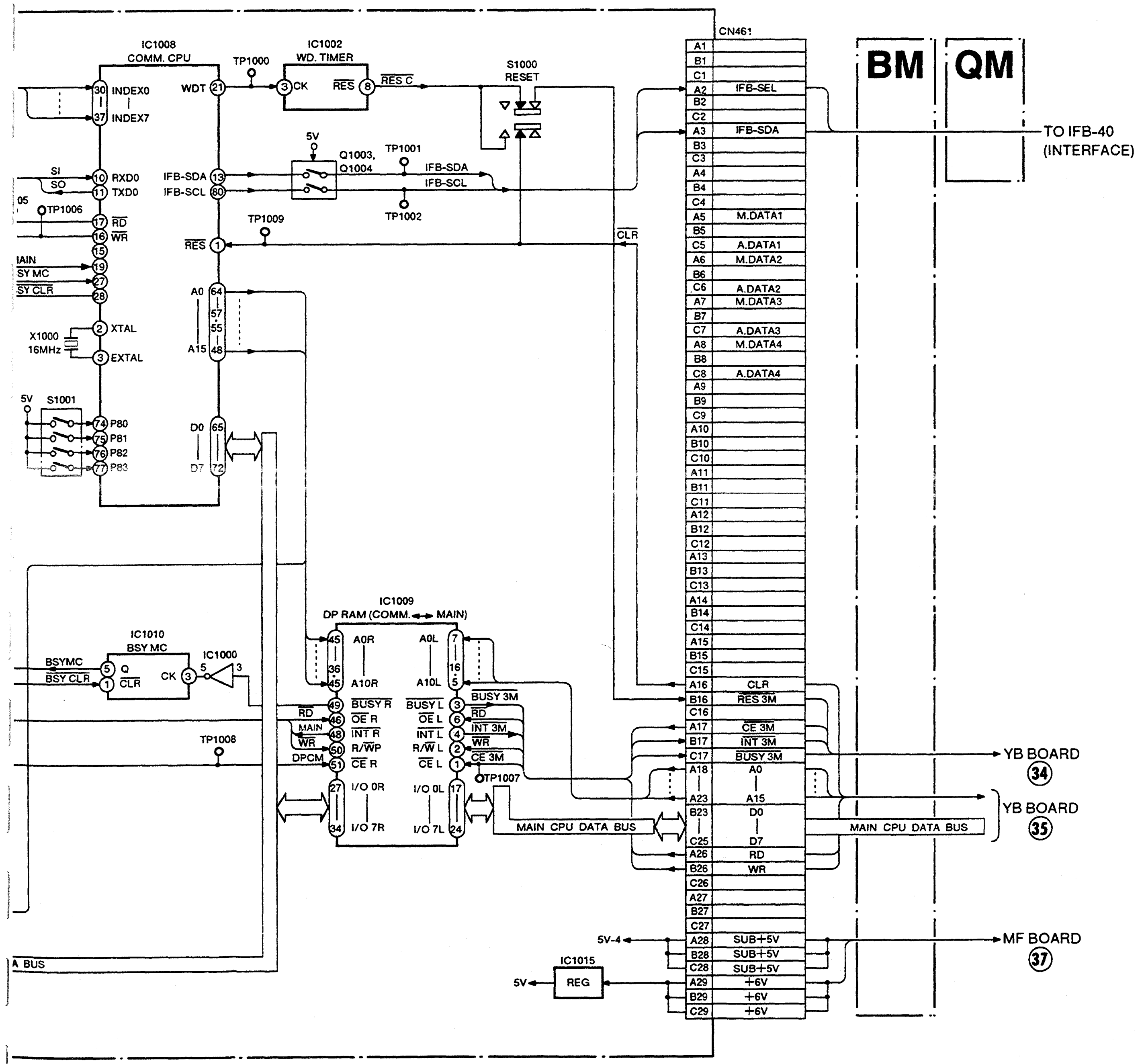

IC108 STEP UP
IC110 REG
IC104 VOLTAGE DETECT
Q105
ON EN
LED ON
SUB +5V
+6V
5V-4
S100
FACTORY
REFRESH
P73
P74
S102 USER FORMAT
REGI
IC109 ADDRESS DECODER
LED CE
ROM
DPMR
DPMO
DPMC
RAM
BSYRM
BSYOM
BSYCM
V. INV
H. INV
ZIK
FAN
V.ST
H.ST
LOT
HV
SUB
A PORT
POLE
IFB
POW2
POW1
P.CONT
CLR
VP
P. EN
PORT
CPU CLK
WR
RD
A0
A15
D0
D7
POW3
POW4
LENS
CRT
IK
IC114 (2/2) PROTECT SW
PROTECT SW Q104, 202
IC114 (1/2) DELAY
IC100 MAIN CPU
P74
SIRCS
PWR ON
ON EN
COMM REQ
LED ON
WIRED
OSD REQ
FACTORY
REFRESH
FORMAT
SW 1
SW 2
R CON
REGI REQ
PROTECT
PROT EN
ENCODE BSY
REPEAT
X100 16MHz
IC104 (1/4) POWER ON DET
IC101 WD. TIMER
WDT
RES M
TP103
TP105
TP100
TP101
IC106 ROM
TP106
IC107 RAM
TP107
CE
IC116 SIRCS ENCODER
IC115 DATA LATCH
OUT
E OUT
X101 4MHz
CK
ENCODE
MAIN CPU DATA BUS
S101 NORMAL ← RESET
IC103
RES C
RES R
RES O
RES M
TP108
IC305 (REGI-MAIN)
A0R
A10R
A0L
A10L
BUSY R
OE R
INT R
R/W R
CE R
BUSY L
OE L
INT L
R/W L
CE L
I/O 0R
I/O 7R
I/O 0L
I/O 7L
TP302
TP301
MAIN
DPRM
A0 - A10
A0 - A15
VS IN
HS IN
S ON G
HS OUT
TP316
CLAMP
V SYNC
IC319 SYNC SW
TP321
HS (B→A)
TP322
VS (B→A)
IC306
HD
VD
CN454
R CON
SUB+5V
SIRCS RC
(OPEN)
CN455
+6V
SIRCS NA
SUB+5V
D0
D7
LED CE
IC111 BUFFER
IC105
TP113
NA BOARD ㉕
BM
MF
CN491(2/2)
TP110 TP111 TP112
POW1
POW2
POW3
POW4
P.PROT1
P.PROT2
P.PROT3
P.PROT4
IFB PROT
LENS PROT
POLE PROT
TP116 TP115 TP114
TP118 TP119 TP120
P. CONT
B PROT
DC PROT
EB PROT
EC PROT
HV PROT
LOT PROT
H STOP
V STOP
ΣIk PROT
IK PROT
CRT PROT
FAN PROT
H INV
V INV
TP121 – TP129
BSY OM
BUSY 2M
BSY CM
BUSY 3M
OSD REQ
INT 2M
RES O
RES 2M
RES C
RES 3M
COMM REQ
INT 3M
DPMO
CE 2M
CLR
DPMC
CE M3
D BOARD ㉖
DB BOARD ㉗
DC BOARD ㉘
㉙
EB BOARD
EC BOARD ㉚
E BOARD ㉛
PA BOARD ㉜
MF BOARD ㉝
B BOARD ⑨
YA BOARD ⑲
YC BOARD ㉞
CN451
A0 - A15
MAIN CPU DATA BUS
YA, YC BOARD ⑳, ㉟
SIRCS NB
SIRCS CCQ
QM
TO IFB-40 (INTERFACE)
MF BOARD ㊱
SUB+5V
+6V
IC113 REG
5V

• YC and YF BOARD Block Diagrams

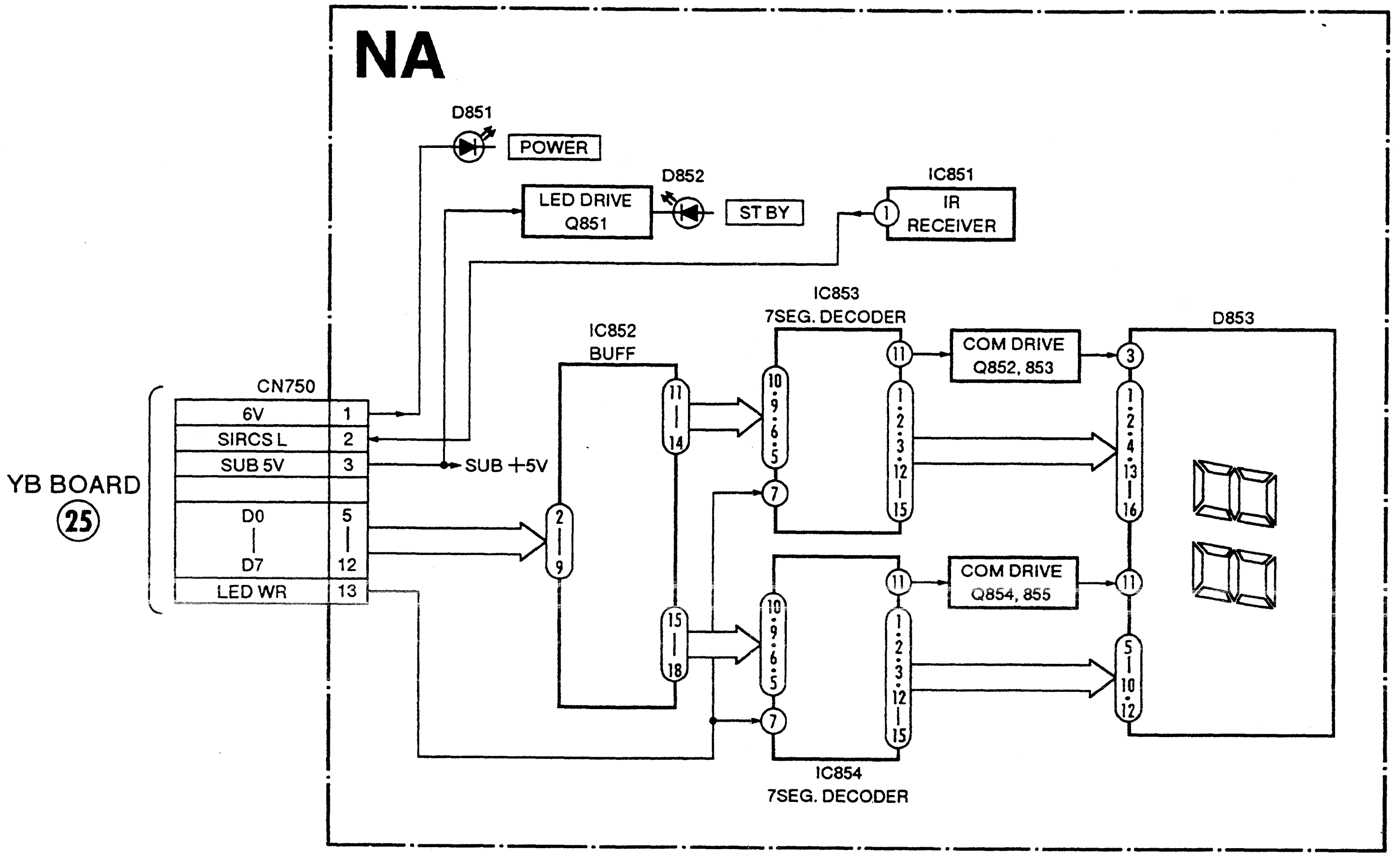

YF
CN465
S1501
INDEX (10)
S1502
INDEX (1)
8 INDEX 7
7 INDEX 6
6 INDEX 5
5 INDEX 4
4 INDEX 3
3 INDEX 2
2 INDEX 1
1 INDEX 0
TB1001
REMOTE
RS-422A
$\overline{RX}$
RX
TX
$\overline{TX}$
IC1011
RAM
D0
D7
A0
A12
$\overline{WR}$
$\overline{RD}$
RAM
TP101
IC1012
COMM. ROM
D0
D7
A0
A14
$\overline{RD}$
ROM
TP101

- **YC and YF BOARD Block Diagrams**

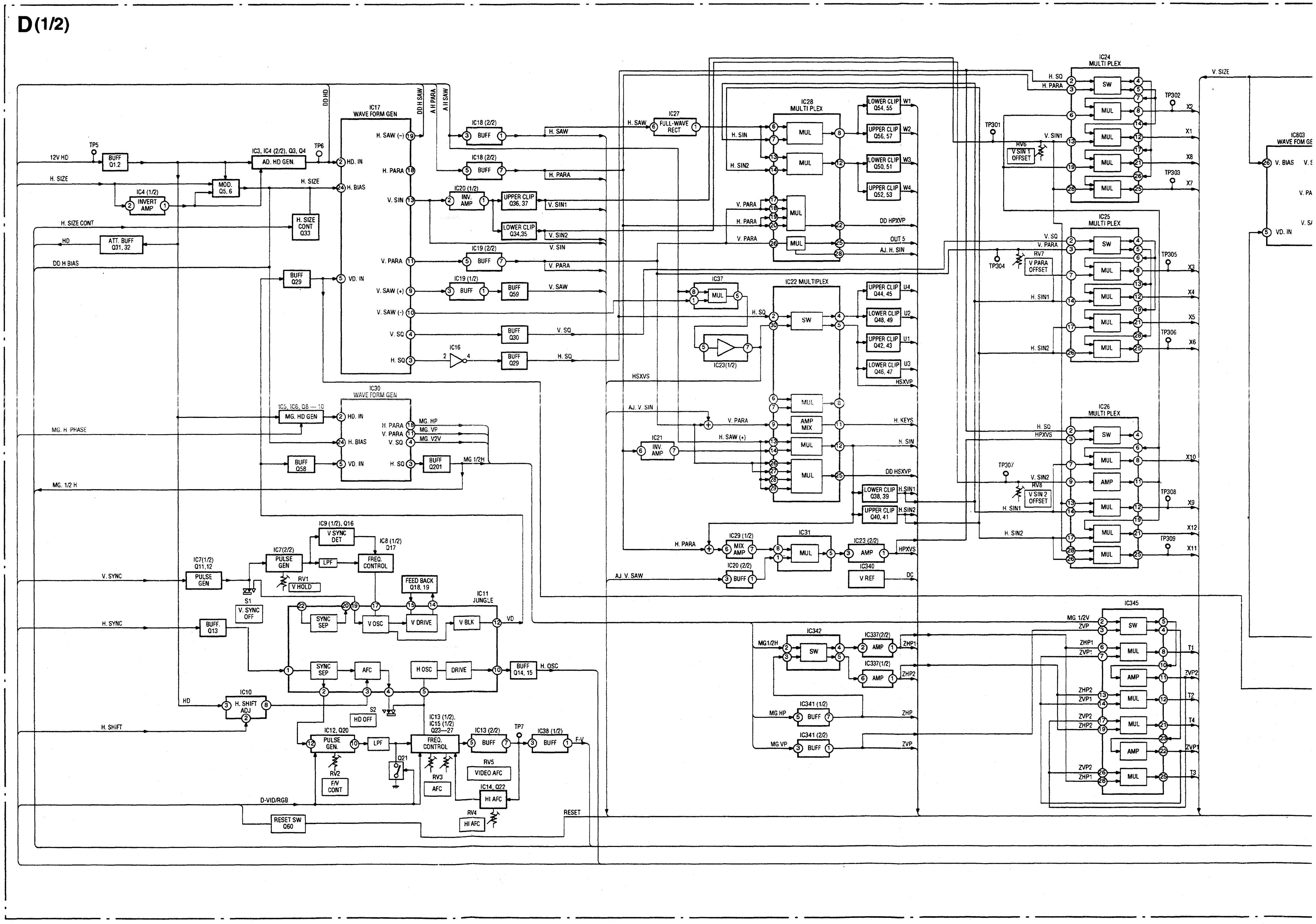

YF
YC
BM
QM
CN465
CN463
CN461
S1501 INDEX (10)
S1502 INDEX (1)
INDEX 7
INDEX 6
INDEX 5
INDEX 4
INDEX 3
INDEX 2
INDEX 1
INDEX 0
TB1001 REMOTE RS-422A
RX
TX
+5V
IC1000
IC1001 RS232C IF
RE
DE
A
B
Z
Y
RO
DI
SI
SO
IC1008 COMM. CPU
INDEX0
INDEX7
RXD0
TXD0
RD
WR
MAIN
BSY MC
BSY CLR
XTAL
EXTAL
X1000 16MHz
5V S1001
P80
P81
P82
P83
TP1005
TP1006
TP1000
WDT
IFB-SDA
IFB-SCL
RES
A0
A15
D0
D7
IC1002 WD. TIMER
CK
RES
RES C
5V
Q1003, Q1004
TP1001
TP1002
TP1009
S1000 RESET
CLR
IFB-SEL
M.DATA1
A.DATA1
M.DATA2
A.DATA2
M.DATA3
A.DATA3
M.DATA4
A.DATA4
RES 3M
CE 3M
INT 3M
BUSY 3M
SUB+5V
+6V
TO (INT
YB BOAF ㉞
YB BOAF ㉟
MF BOAF ㊲
IC1011 RAM
TP1011
IC1014 (1/2)
IC1013 ADDRESS DECODER
DPCM
Y0
Y1
Y2
Y3
A11
A12
G2A
G2B
G1
IC1012 COMM. ROM
ROM
TP1012
IC1014 (2/2)
A13
A14
A15
IC1010 BSY MC
BSYMC
BSY CLR
Q
CLR
CK
IC1009 DP RAM (COMM.↔MAIN)
A0R
A10R
BUSY R
OE R
INT R
R/WP
CE R
I/O 0R
I/O 7R
A0L
A10L
BUSY L
OE L
INT L
R/W L
CE L
I/O 0L
I/O 7L
TP1008
TP1007
MAIN CPU DATA BUS
COMM CPU DATA BUS
IC1015 REG
5V-4
5V

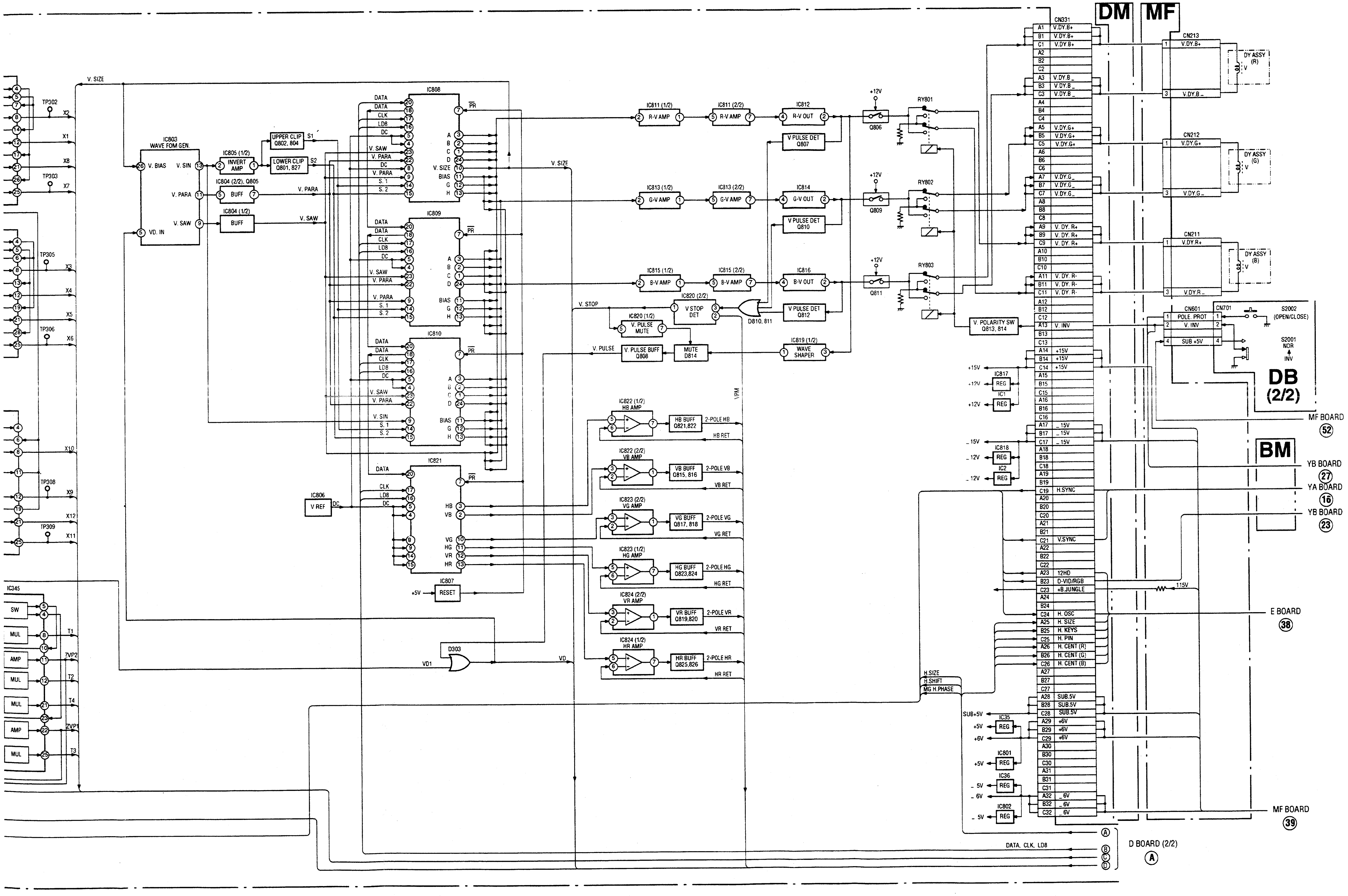

IC1008
COMM. CPU
INDEX0
INDEX7
RXD0
TXD0
SI
SO
TP1006
RD
WR
SY MC
SY CLR
XTAL
EXTAL
X1000
16MHz
S1001
P80
P81
P82
P83
WDT
IFB-SDA
IFB-SCL
RES
A0
A15
D0
D7
TP1000
IC1002
WD. TIMER
CK
RES
RES C
S1000
RESET
5V
Q1003, Q1004
TP1001
TP1002
TP1009
CLR
CN461
IFB-SEL
IFB-SDA
M.DATA1
A.DATA1
M.DATA2
A.DATA2
M.DATA3
A.DATA3
M.DATA4
A.DATA4
BM
QM
TO IFB-40
(INTERFACE)
IC1010
BSY MC
BSYMC
BSY CLR
Q
CLR
CK
IC1000
TP1008
IC1009
DP RAM (COMM.↔MAIN)
A0R
A10R
A0L
A10L
BUSY R
OE R
INT R
R/WP
CE R
BUSY L
OE L
INT L
R/W L
CE L
I/O 0R
I/O 7R
I/O 0L
I/O 7L
BUSY 3M
RD
INT 3M
WR
CE 3M
TP1007
MAIN
DPCM
MAIN CPU DATA BUS
CLR
RES 3M
CE 3M
INT 3M
BUSY 3M
A0
A15
D0
D7
RD
WR
YB BOARD ㉞
YB BOARD ㉟
SUB+5V
+6V
5V-4
IC1015
REG
5V
MF BOARD ㊲
A BUS

- **NA BOARD Block Diagrams**

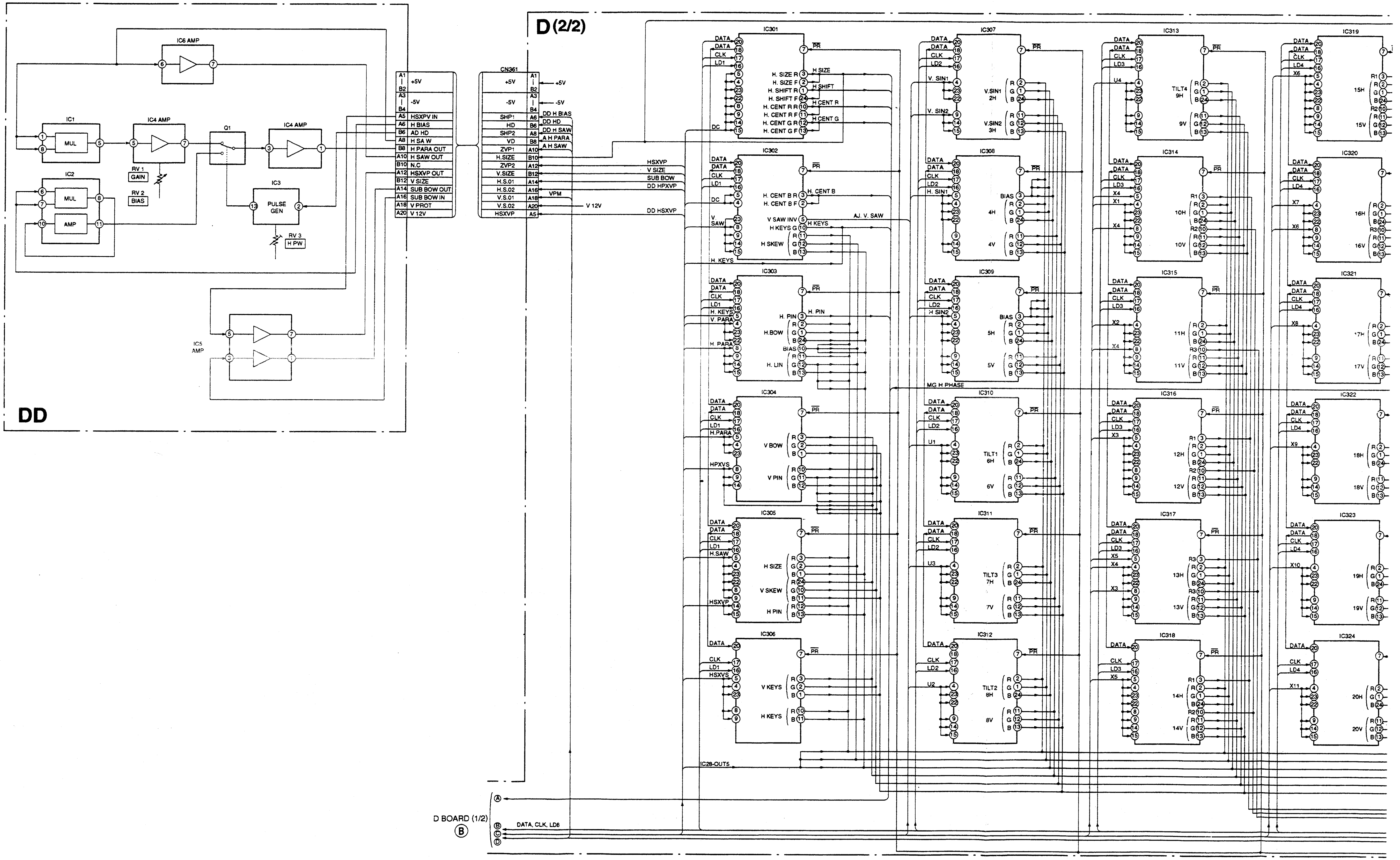

NA
D851
POWER
D852
LED DRIVE
Q851
ST BY
IC851
IR
RECEIVER
IC853
7SEG. DECODER
IC852
BUFF
D853
COM DRIVE
Q852, 853
COM DRIVE
Q854, 855
IC854
7SEG. DECODER
CN750
YB BOARD
㉕
6V
SIRCS L
SUB 5V
D0
D7
LED WR
SUB +5V

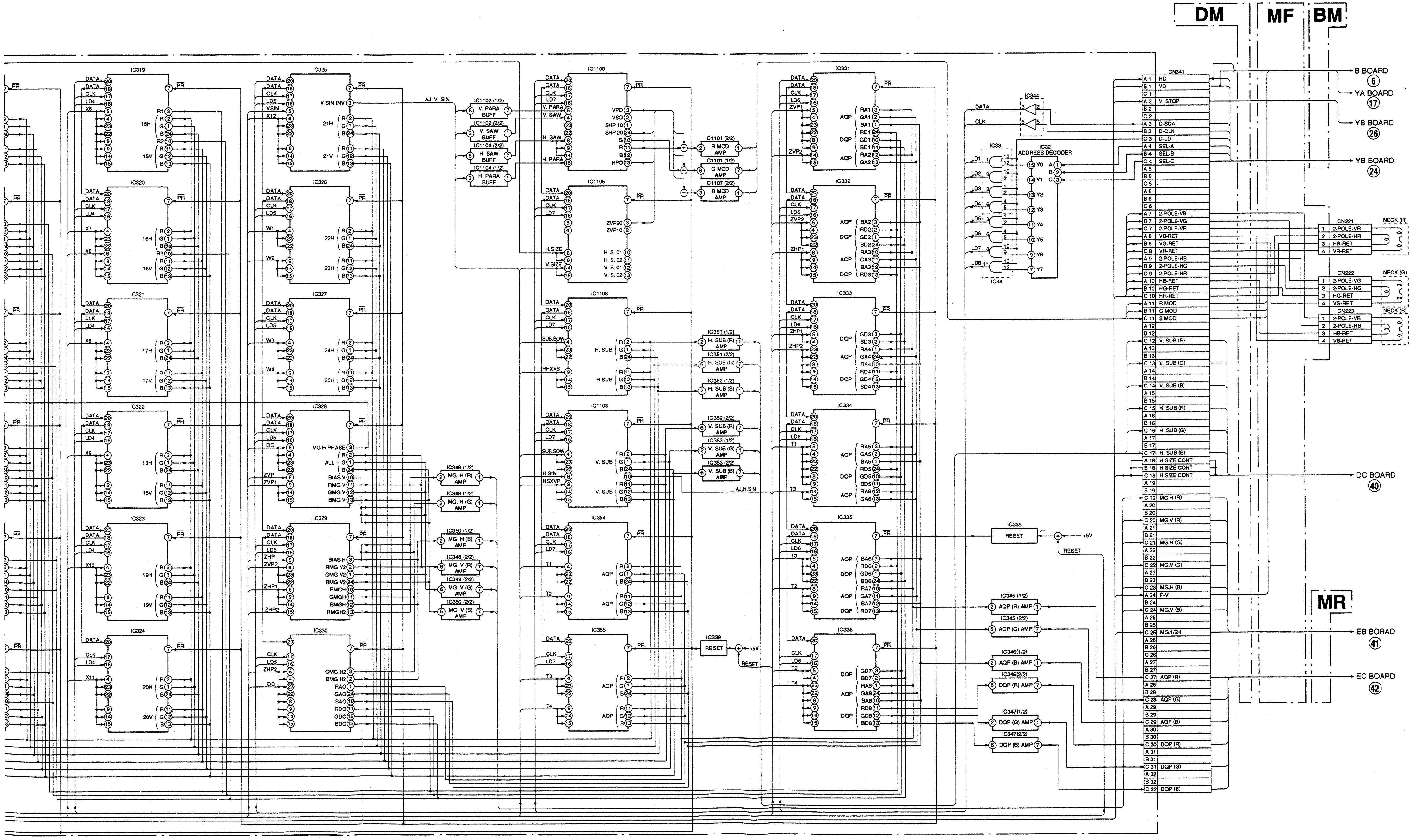
• D (1/2) BOARD Block Diagrams


D(1/2)
12V HD
H. SIZE
H. SIZE CONT
HD
DD H BIAS
MG. H. PHASE
MG. 1/2 H
V. SYNC
H. SYNC
H. SHIFT
D-VID/RGB
TP5
BUFF Q1,2
IC4 (1/2) INVERT AMP
ATT. BUFF Q31, 32
MOD. Q5, 6
IC3, IC4 (2/2), Q3, Q4 AD. HD GEN.
TP6
H. SIZE CONT Q33
BUFF Q29
DD HD
IC17 WAVE FORM GEN
HD. IN
H. BIAS
VD. IN
H. SAW (-)
H. PARA
V. SIN
V. PARA
V. SAW (+)
V. SAW (-)
V. SQ
H. SQ
DD H SAW
A H PARA
A H SAW
IC18 (2/2) BUFF
H. SAW
H. PARA
IC20 (1/2) INV. AMP
UPPER CLIP Q36, 37
LOWER CLIP Q34,35
V. SIN1
V. SIN2
V. SIN
IC19 (2/2) BUFF
IC19 (1/2) BUFF
BUFF Q59
BUFF Q30
IC16
BUFF Q29
IC5, IC6, Q8 — 10 MG. HD GEN
IC30 WAVE FORM GEN
MG. HP
MG. VP
MG. V2V
MG 1/2H
BUFF Q58
BUFF Q201
IC9 (1/2), Q16 V SYNC DET
IC8 (1/2) Q17
IC7(2/2) PULSE GEN
LPF
FREQ. CONTROL
IC7(1/2) Q11,12 PULSE GEN
RV1 V HOLD
S1 V. SYNC OFF
FEED BACK Q18, 19
IC11 JUNGLE
SYNC SEP
V OSC
V DRIVE
V BLK
VD
BUFF Q13
AFC
H OSC
DRIVE
BUFF Q14, 15
H. OSC
IC10 H. SHIFT ADJ
S2
HD OFF
IC12, Q20 PULSE GEN.
RV2 F/V CONT
Q21
IC13 (1/2), IC15 (1/2) Q23—27 FREQ. CONTROL
RV3 AFC
RV5 VIDEO AFC
IC14, Q22 HI AFC
RV4 HI AFC
IC13 (2/2) BUFF
TP7
IC38 (1/2) BUFF
F-V
RESET SW Q60
RESET
IC27 FULL-WAVE RECT
IC28 MULTI PLEX
H. SIN
H. SIN2
MUL
V. PARA
H. PARA
LOWER CLIP Q54, 55
UPPER CLIP Q56, 57
LOWER CLIP Q50, 51
UPPER CLIP Q52, 53
W1
W2
W3
W4
DD HPXVP
OUT 5
AJ. H. SIN
IC37
IC22 MULTIPLEX
SW
H. SQ
IC23(1/2)
UPPER CLIP Q44, 45
LOWER CLIP Q48, 49
UPPER CLIP Q42, 43
LOWER CLIP Q46, 47
U4
U2
U1
U3
HSXVP
HSXVS
AJ. V. SIN
IC21 INV. AMP
H. SAW (+)
AMP MIX
H. KEYS
DD HSXVP
LOWER CLIP Q38, 39
UPPER CLIP Q40, 41
H.SIN1
H.SIN2
IC29 (1/2) MIX AMP
IC20 (2/2) BUFF
IC31
IC23 (2/2) AMP
IC340 V REF
HPXVS
DC
AJ. V. SAW
TP301
RV6 V SIN 1 OFFSET
IC24 MULTI PLEX
TP302
TP303
X2
X1
X8
X7
V. SIN1
TP304
RV7 V PARA OFFSET
IC25 MULTI PLEX
TP305
TP306
X3
X4
X5
X6
V. SQ
H. SIN1
H. SIN2
IC26 MULTI PLEX
HPXVS
TP307
RV8 V SIN 2 OFFSET
V. SIN2
TP308
TP309
AMP
X10
X9
X12
X11
V. SIZE
IC803 WAVE FOM GE
V. BIAS
V. PA
V. SA
VD. IN
IC345
MG 1/2V
ZVP
ZHP1
ZVP1
ZHP2
ZVP2
T1
T2
T4
T3
IC342
MG1/2H
IC337(2/2) AMP
IC337(1/2) AMP
IC341 (1/2) BUFF
IC341 (2/2) BUFF
MG HP
MG VP
ZHP

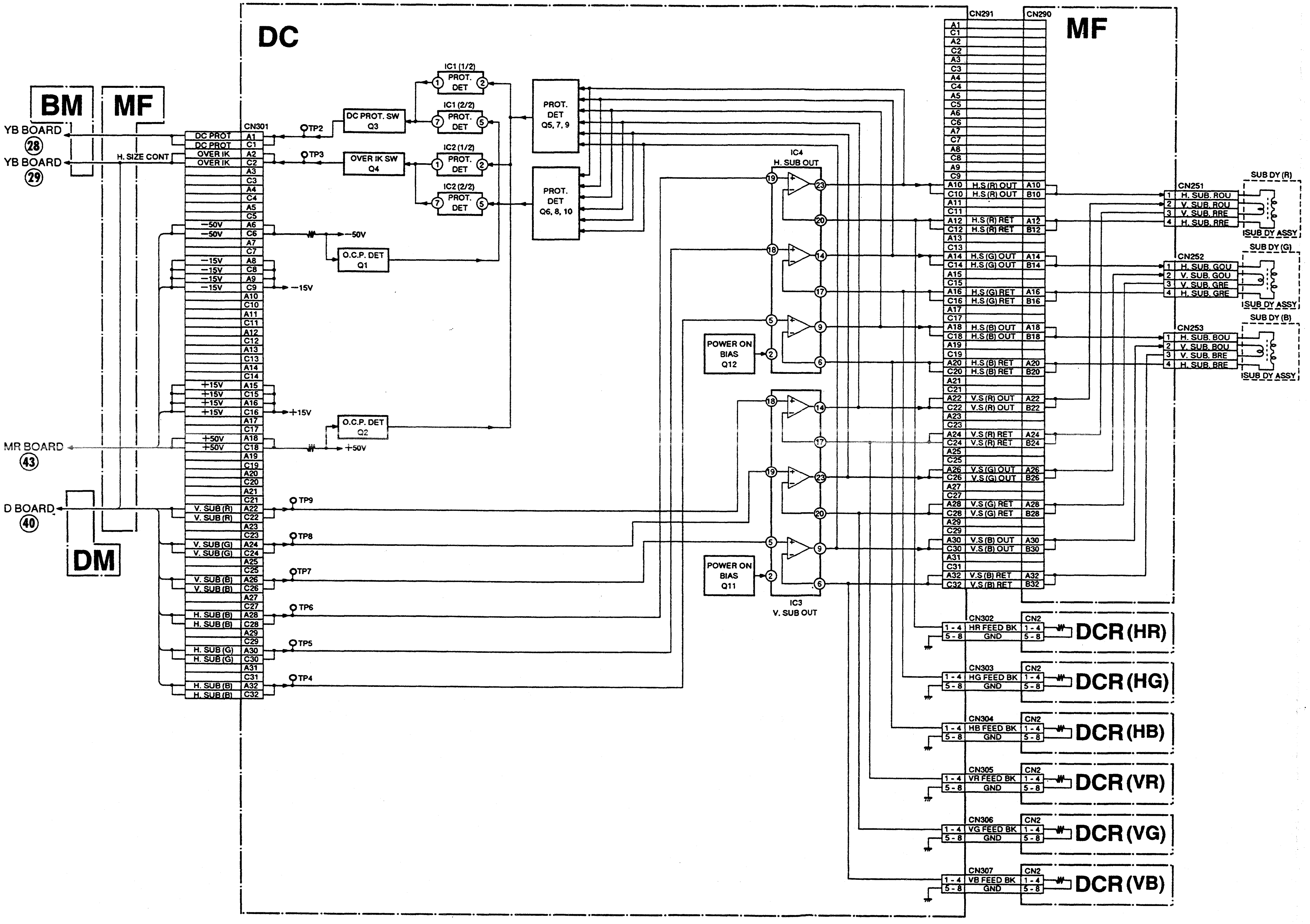

DM
MF
DB (2/2)
BM
IC803 WAVE FOM GEN.
V. BIAS
V. SIN
V. PARA
V. SAW
VD. IN
V. SIZE
IC805 (1/2) INVERT AMP
UPPER CLIP Q802, 804
LOWER CLIP Q801, 827
IC804 (2/2), Q805 BUFF
IC804 (1/2) BUFF
IC808
IC809
IC810
IC821
IC806 V REF
IC807 RESET
D303
VD1
VD
DATA
CLK
LD8
DC
S. 1
S. 2
BIAS
PR
IC811 (1/2) R-V AMP
IC811 (2/2) R-V AMP
IC812 R-V OUT
V PULSE DET Q807
IC813 (1/2) G-V AMP
IC813 (2/2) G-V AMP
IC814 G-V OUT
V PULSE DET Q810
IC815 (1/2) B-V AMP
IC815 (2/2) B-V AMP
IC816 B-V OUT
V PULSE DET Q812
IC820 (2/2) V STOP DET
IC820 (1/2) V. PULSE MUTE
V. STOP
V. PULSE
V. PULSE BUFF Q808
MUTE D814
D810, 811
IC819 (1/2) WAVE SHAPER
IC822 (1/2) HB AMP
HB BUFF Q821,822
2-POLE HB
HB RET
IC822 (2/2) VB AMP
VB BUFF Q815, 816
2-POLE VB
VB RET
IC823 (2/2) VG AMP
VG BUFF Q817, 818
2-POLE VG
VG RET
IC823 (1/2) HG AMP
HG BUFF Q823,824
2-POLE HG
HG RET
IC824 (2/2) VR AMP
VR BUFF Q819,820
2-POLE VR
VR RET
IC824 (1/2) HR AMP
HR BUFF Q825,826
2-POLE HR
HR RET
VPM
+12V
Q806
Q809
Q811
RY801
RY802
RY803
V. POLARITY SW Q813, 814
CN331
V.DY.B+
V.DY.B_
V.DY.G+
V.DY.G_
V. DY. R+
V. DY. R-
V. INV
+15V
-15V
H.SYNC
V.SYNC
12HD
D-VID/RGB
+B JUNGLE
H. OSC
H. SIZE
H. KEYS
H. PIN
H. CENT (R)
H. CENT (G)
H. CENT (B)
SUB.5V
+6V
-6V
IC817 REG
IC1 REG
IC818 REG
IC2 REG
IC35 REG
IC801 REG
IC36 REG
IC802 REG
+12V
-12V
SUB+5V
+5V
-5V
H.SIZE
H.SHIFT
MG H.PHASE
115V
CN213
CN212
CN211
DY ASSY (R)
DY ASSY (G)
DY ASSY (B)
CN601
CN701
POLE PROT
SUB +5V
S2002 (OPEN/CLOSE)
S2001 NOR INV
MF BOARD ㊾
YB BOARD ㉗
YA BOARD ⑯
YB BOARD ㉓
E BOARD ㊳
MF BOARD ㊴
D BOARD (2/2) Ⓐ
DATA, CLK, LD8
Ⓐ Ⓑ Ⓒ Ⓓ
TP302
TP303
TP305
TP306
TP308
TP309
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
X12
IC345
SW
MUL
AMP
T1
T2
T3
T4
ZVP1
ZVP2

- **D (2/2) and DD BOARD Block Diagrams**

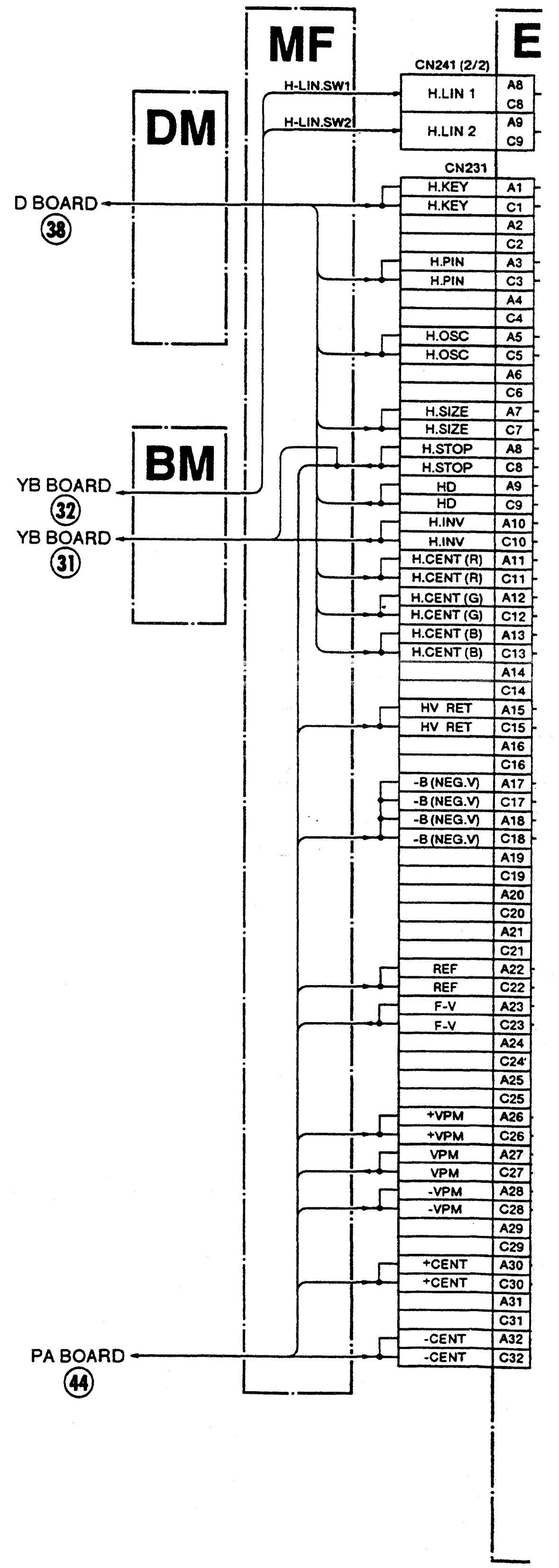

DD
IC6 AMP
IC1
MUL
IC4 AMP
Q1
IC2
AMP
RV 1
GAIN
RV 2
BIAS
IC3
PULSE GEN
RV 3
H PW
IC5 AMP
+5V
-5V
HSXPV IN
H BIAS
AD HD
H SAW
H PARA OUT
H SAW OUT
N.C
HSXVP OUT
V SIZE
SUB BOW OUT
SUB BOW IN
V PROT
V 12V
D (2/2)
CN361
SHP1
HD
SHP2
VD
ZVP1
H.SIZE
ZVP2
V.SIZE
H.S.01
H.S.02
V.S.01
V.S.02
HSXVP
DD H BIAS
DD HD
DD H SAW
A H PARA
A H SAW
VPM
V 12V
HSXVP
V SIZE
SUB BOW
DD HPXVP
DD HSXVP
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC308
IC309
IC310
IC311
IC312
IC313
IC314
IC315
IC316
IC317
IC318
IC319
IC320
IC321
IC322
IC323
IC324
DATA
CLK
LD1
LD2
LD3
LD4
PR
H. SIZE R
H. SIZE F
H. SHIFT R
H. SHIFT F
H. CENT R R
H. CENT R F
H. CENT G R
H. CENT G F
H SIZE
H SHIFT
H CENT R
H CENT G
H. CENT B R
H. CENT B F
H. CENT B
V SAW INV
H KEYS G
H SKEW
H KEYS
A.J. V. SAW
H. PIN
H.BOW
BIAS
H. LIN
H. PARA
V. PARA
V BOW
V PIN
HPXVS
H.SAW
H SIZE
V SKEW
H PIN
HSXVP
HSXVS
V KEYS
H KEYS
V. SIN1
V. SIN2
V.SIN1 2H
V.SIN2 3H
H. SIN1
H. SIN2
4H
4V
5H
5V
MG H PHASE
U1
U2
U3
U4
TILT1 6H
6V
TILT3 7H
7V
TILT2 8H
8V
TILT4 9H
9V
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
10H
10V
11H
11V
12H
12V
13H
13V
14H
14V
15H
15V
16H
16V
17H
17V
18H
18V
19H
19V
20H
20V
IC28-OUT5
D BOARD (1/2)
Ⓑ
DATA, CLK, LD6
Ⓐ
Ⓒ
Ⓓ


DM
MF
BM
MR
IC319
IC320
IC321
IC322
IC323
IC324
IC325
IC326
IC327
IC328
IC329
IC330
IC1100
IC1105
IC1108
IC1103
IC354
IC355
IC331
IC332
IC333
IC334
IC335
IC336
IC1102 (1/2) V. PARA BUFF
IC1102 (2/2) V. SAW BUFF
IC1104 (2/2) H. SAW BUFF
IC1104 (1/2) H. PARA BUFF
IC1101 (2/2) R MOD AMP
IC1101 (1/2) G MOD AMP
IC1107 (2/2) B MOD AMP
IC351 (1/2) H. SUB (R) AMP
IC351 (2/2) H. SUB (G) AMP
IC352 (1/2) H. SUB (B) AMP
IC352 (2/2) V. SUB (R) AMP
IC353 (1/2) V. SUB (G) AMP
IC353 (2/2) V. SUB (B) AMP
IC348 (1/2) MG. H (R) AMP
IC349 (1/2) MG. H (G) AMP
IC350 (1/2) MG. H (B) AMP
IC348 (2/2) MG. V (R) AMP
IC349 (2/2) MG. V (G) AMP
IC350 (2/2) MG. V (B) AMP
IC339 RESET
IC338 RESET
IC345 (1/2) AQP (R) AMP
IC345 (2/2) AQP (G) AMP
IC346(1/2) AQP (B) AMP
IC346(2/2) DQP (R) AMP
IC347(1/2) DQP (G) AMP
IC347(2/2) DQP (B) AMP
IC344
IC33
IC32 ADDRESS DECODER
IC34
DATA
CLK
LD1
LD2
LD3
LD4
LD5
LD6
LD7
LD8
AJ. V. SIN
AJ.H.SIN
+5V
RESET
V SIN INV
MG H PHASE
BIAS H
H. SUB
V. SUB
AQP
DQP
CN341
A1 HD
B1 VD
A2 V. STOP
A3 D-SDA
B3 D-CLK
C3 D-LD
A4 SEL-A
B4 SEL-B
C4 SEL-C
A7 2-POLE-VB
B7 2-POLE-VG
C7 2-POLE-VR
A8 VB-RET
B8 VG-RET
C8 VR-RET
A9 2-POLE-HB
B9 2-POLE-HG
C9 2-POLE-HR
A10 HB-RET
B10 HG-RET
C10 HR-RET
A11 R MOD
B11 G MOD
C11 B MOD
C12 V. SUB (R)
C13 V. SUB (G)
C14 V. SUB (B)
C15 H. SUB (R)
C16 H. SUB (G)
C17 H. SUB (B)
A18 H.SIZE CONT
B18 H.SIZE CONT
C18 H.SIZE CONT
C19 MG.H (R)
C20 MG.V (R)
C21 MG.H (G)
C22 MG.V (G)
C23 MG.H (B)
A24 F-V
C24 MG.V (B)
C25 MG.1/2H
C27 AQP (R)
C28 AQP (G)
C29 AQP (B)
C30 DQP (R)
C31 DQP (G)
C32 DQP (B)
CN221
1 2-POLE-VR
2 2-POLE-HR
3 HR-RET
4 VR-RET
NECK (R)
CN222
1 2-POLE-VG
2 2-POLE-HG
3 HG-RET
4 VG-RET
NECK (G)
CN223
1 2-POLE-VB
2 2-POLE-HB
3 HB-RET
4 VB-RET
NECK (B)
B BOARD ⑥
YA BOARD ⑰
YB BOARD ㉖
YB BOARD ㉔
DC BOARD ㊵
EB BORAD ㊶
EC BOARD ㊷

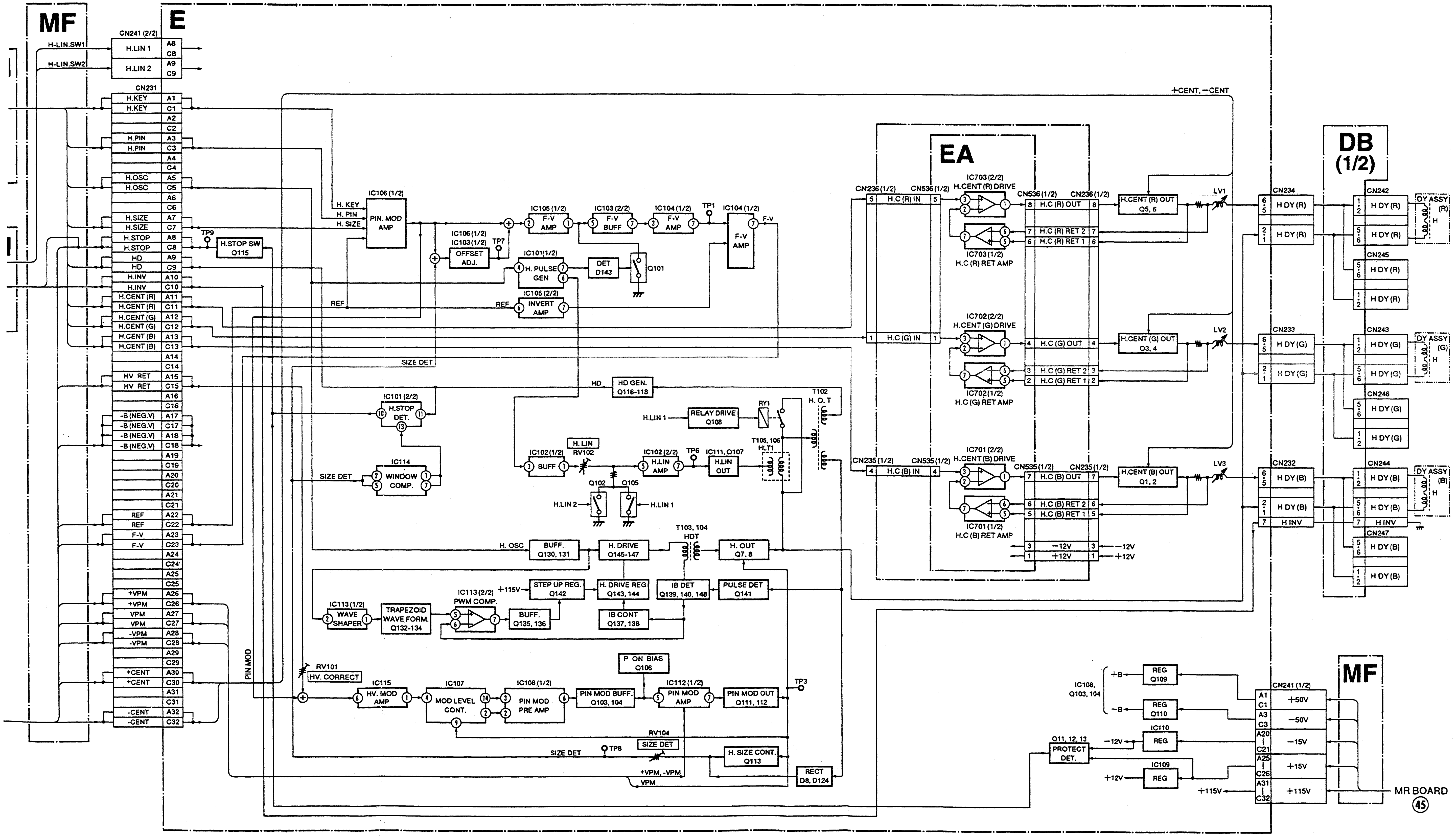
• DC, DCR and MF BOARD Block Diagrams


DC
MF
BM
MF
DM
YB BOARD ㉘
YB BOARD ㉙
MR BOARD ㊸
D BOARD ㊵
CN301
DC PROT
DC PROT
OVER IK
OVER IK
H. SIZE CONT
-50V
-15V
+15V
+50V
V. SUB (R)
V. SUB (G)
V. SUB (B)
H. SUB (B)
H. SUB (G)
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
DC PROT. SW Q3
OVER IK SW Q4
IC1 (1/2) PROT. DET
IC1 (2/2) PROT. DET
IC2 (1/2) PROT. DET
IC2 (2/2) PROT. DET
PROT. DET Q5, 7, 9
PROT. DET Q6, 8, 10
O.C.P. DET Q1
O.C.P. DET Q2
IC4 H. SUB OUT
IC3 V. SUB OUT
POWER ON BIAS Q12
POWER ON BIAS Q11
CN291
CN290
H.S (R) OUT
H.S (R) RET
H.S (G) OUT
H.S (G) RET
H.S (B) OUT
H.S (B) RET
V.S (R) OUT
V.S (R) RET
V.S (G) OUT
V.S (G) RET
V.S (B) OUT
V.S (B) RET
CN251
H. SUB. ROU
V. SUB. ROU
V. SUB. RRE
H. SUB. RRE
SUB DY (R)
SUB DY ASSY
CN252
H. SUB. GOU
V. SUB. GOU
V. SUB. GRE
H. SUB. GRE
SUB DY (G)
CN253
H. SUB. BOU
V. SUB. BOU
V. SUB. BRE
H. SUB. BRE
SUB DY (B)
CN302 HR FEED BK GND CN2 DCR (HR)
CN303 HG FEED BK GND CN2 DCR (HG)
CN304 HB FEED BK GND CN2 DCR (HB)
CN305 VR FEED BK GND CN2 DCR (VR)
CN306 VG FEED BK GND CN2 DCR (VG)
CN307 VB FEED BK GND CN2 DCR (VB)

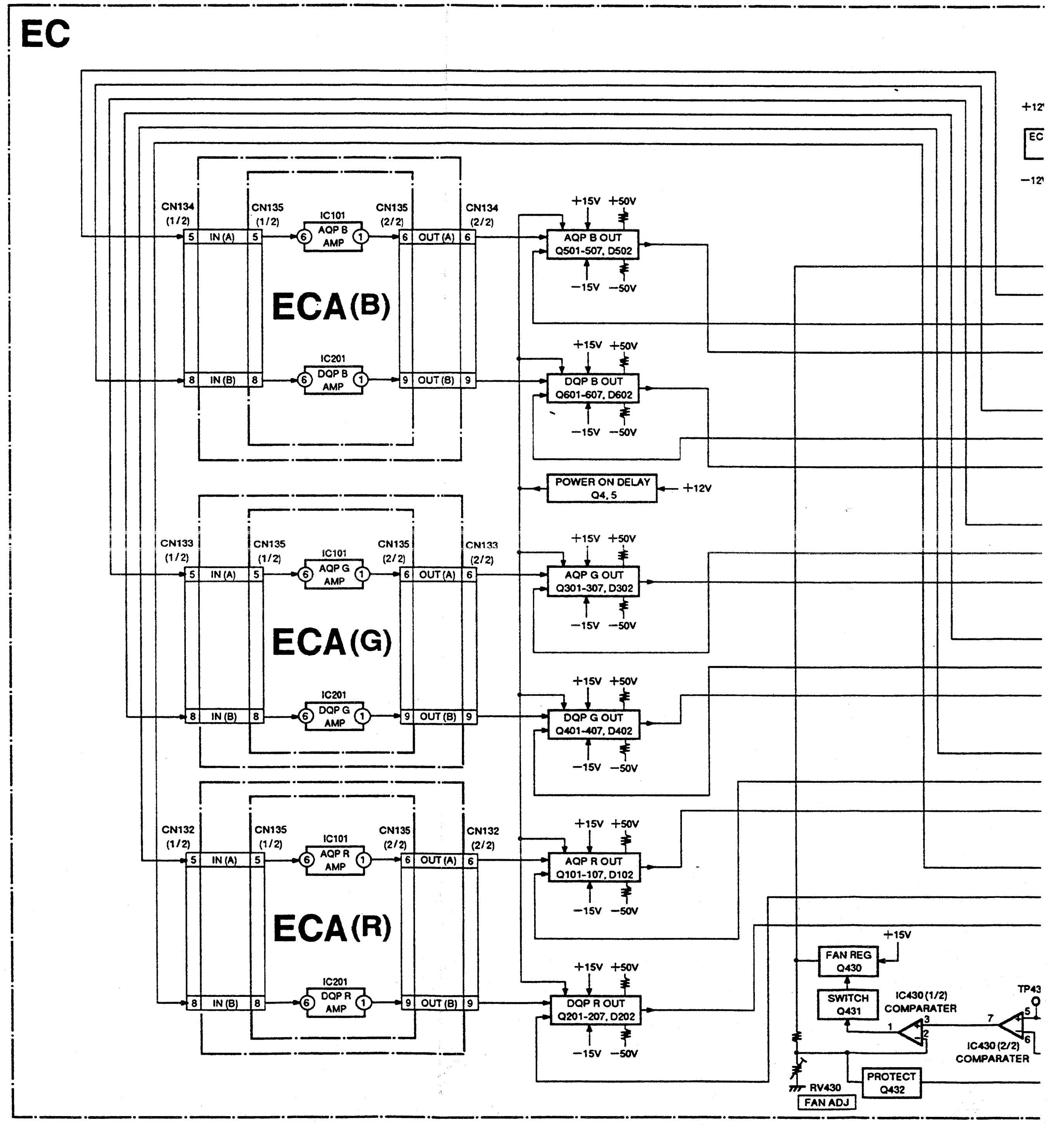
• E, EA and DB BOARD Block Diagrams


MF
E
DM
BM
D BOARD ㊳
YB BOARD ㉜
YB BOARD ㉛
PA BOARD ㊹
H-LIN.SW1
H-LIN.SW2
CN241 (2/2)
H.LIN 1
H.LIN 2
CN231
H.KEY
H.PIN
H.OSC
H.SIZE
H.STOP
HD
H.INV
H.CENT (R)
H.CENT (G)
H.CENT (B)
HV RET
-B (NEG.V)
REF
F-V
+VPM
VPM
-VPM
+CENT
-CENT

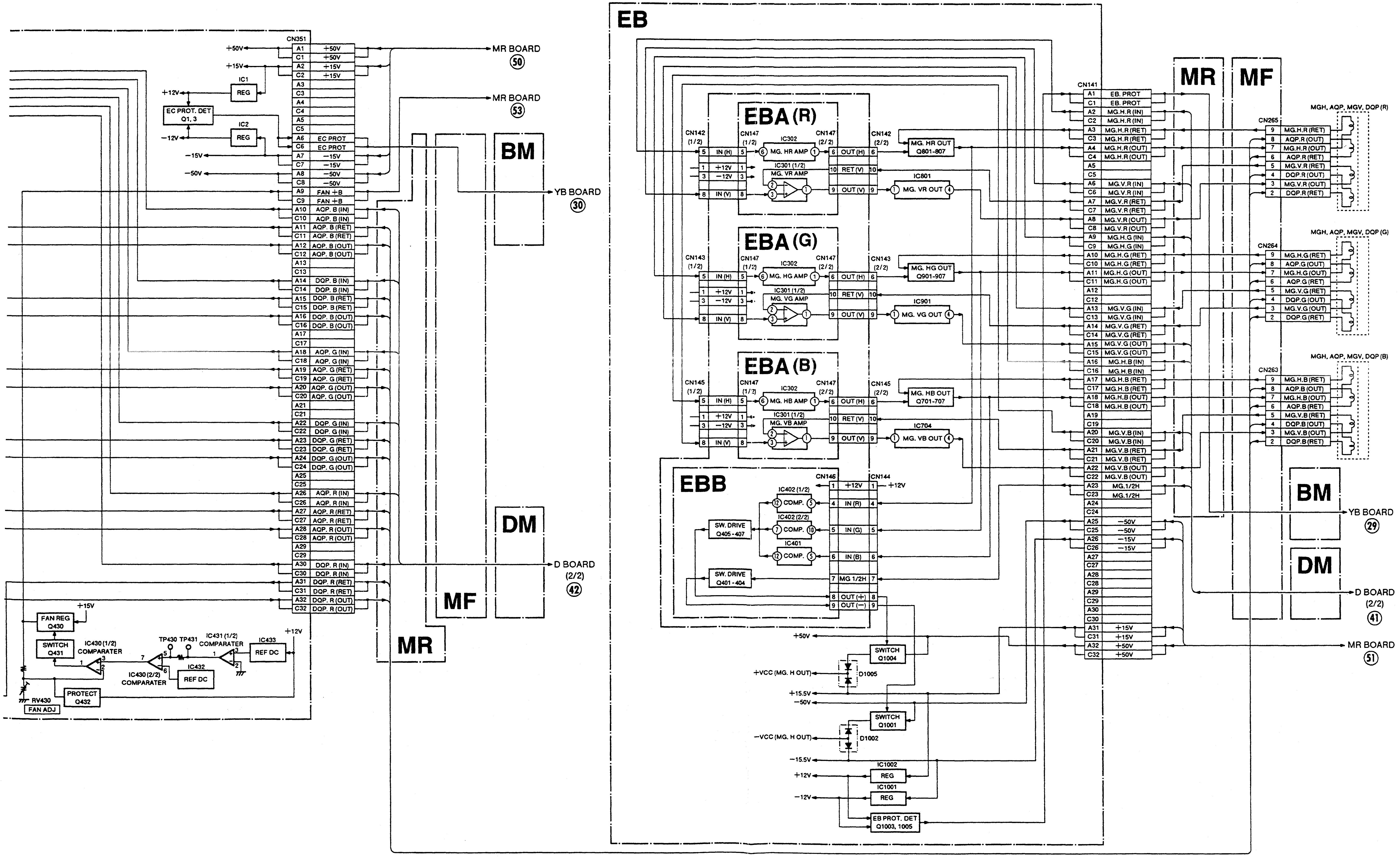
lock Diagrams


MF
E
EA
DB (1/2)
MF
CN241 (2/2)
H-LIN.SW1
H-LIN.SW2
H.LIN 1
H.LIN 2
CN231
H.KEY
H.PIN
H.OSC
H.SIZE
H.STOP
HD
H.INV
H.CENT (R)
H.CENT (G)
H.CENT (B)
HV RET
-B (NEG.V)
REF
F-V
+VPM
VPM
-VPM
+CENT
-CENT
TP9
H.STOP SW Q115
IC106 (1/2) PIN. MOD AMP
IC106 (1/2) IC103 (1/2) OFFSET ADJ.
TP7
IC105 (1/2) F-V AMP
IC103 (2/2) F-V BUFF
IC104 (1/2) F-V AMP
TP1
IC104 (1/2) F-V AMP
IC101 (1/2) H. PULSE GEN
DET D143
Q101
IC105 (2/2) INVERT AMP
SIZE DET
HD GEN. Q116-118
IC101 (2/2) H.STOP DET.
RELAY DRIVE Q108
RY1
T102 H. O. T
T105, 106 HLT1
H. LIN RV102
IC102 (1/2) BUFF
IC102 (2/2) H.LIN AMP
TP6
IC111, Q107 H.LIN OUT
Q102
Q105
IC114 WINDOW COMP.
H. OSC
BUFF. Q130, 131
H. DRIVE Q145-147
T103, 104 HDT
H. OUT Q7, 8
STEP UP REG. Q142
H. DRIVE REG Q143, 144
IB DET Q139, 140, 148
PULSE DET Q141
IC113 (2/2) PWM COMP.
+115V
IC113 (1/2) WAVE SHAPER
TRAPEZOID WAVE FORM. Q132-134
BUFF. Q135, 136
IB CONT Q137, 138
PIN MOD
RV101 HV. CORRECT
IC115 HV. MOD AMP
IC107 MOD LEVEL CONT.
IC108 (1/2) PIN MOD PRE AMP
P ON BIAS Q106
PIN MOD BUFF. Q103, 104
IC112 (1/2) PIN MOD AMP
PIN MOD OUT Q111, 112
TP3
RV104 SIZE DET
TP8
H. SIZE CONT. Q113
RECT D8, D124
+VPM, -VPM
+CENT, -CENT
CN236 (1/2)
CN536 (1/2)
H.C (R) IN
IC703 (2/2) H.CENT (R) DRIVE
IC703 (1/2) H.C (R) RET AMP
H.C (R) OUT
H.C (R) RET 2
H.C (R) RET 1
H.C (G) IN
IC702 (2/2) H.CENT (G) DRIVE
IC702 (1/2) H.C (G) RET AMP
H.C (G) OUT
H.C (G) RET 2
H.C (G) RET 1
CN235 (1/2)
CN535 (1/2)
H.C (B) IN
IC701 (2/2) H.CENT (B) DRIVE
IC701 (1/2) H.C (B) RET AMP
H.C (B) OUT
H.C (B) RET 2
H.C (B) RET 1
-12V
+12V
H.CENT (R) OUT Q5, 6
H.CENT (G) OUT Q3, 4
H.CENT (B) OUT Q1, 2
LV1
LV2
LV3
CN234
CN233
CN232
CN242
CN243
CN244
CN245
CN246
CN247
H DY (R)
H DY (G)
H DY (B)
H INV
DY ASSY (R)
DY ASSY (G)
DY ASSY (B)
IC108, Q103, 104
REG Q109
REG Q110
IC110 REG
IC109 REG
Q11, 12, 13 PROTECT DET.
CN241 (1/2)
+50V
-50V
-15V
+15V
+115V
MR BOARD ㊺

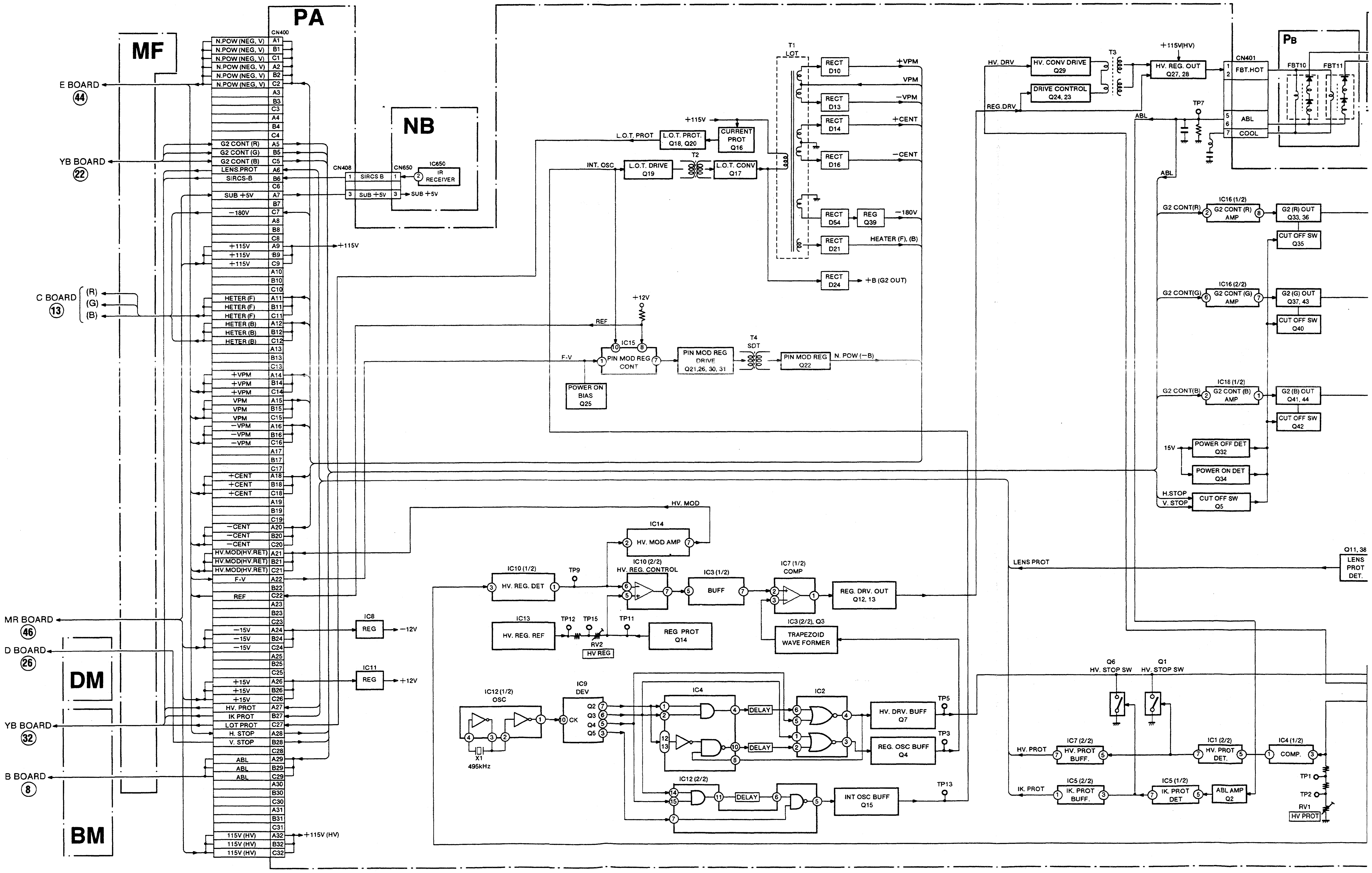
• EC, ECA, EB, EBA and EBB BOARD Block Diagrams

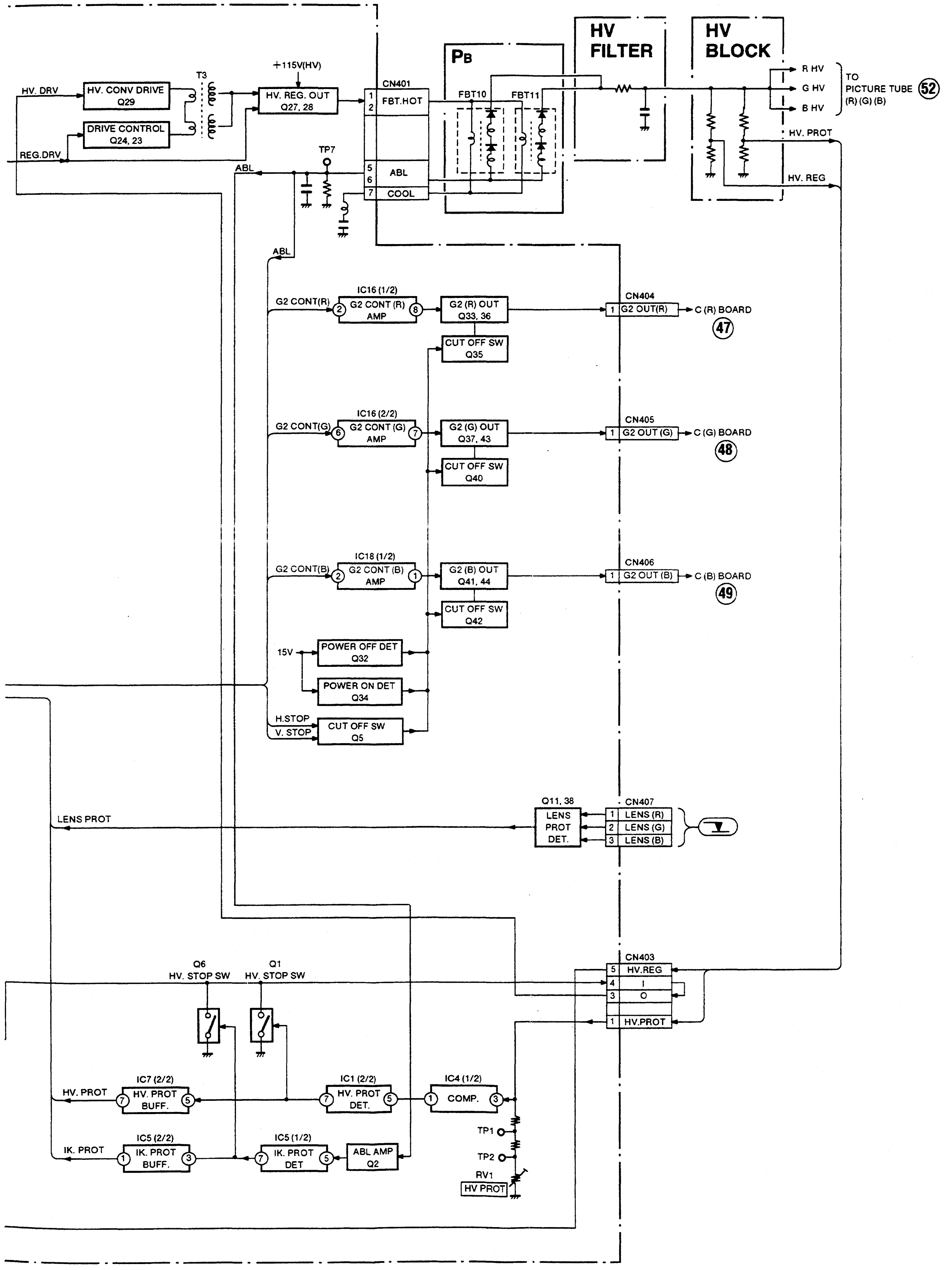

EC
+12
EC
−12
CN134
(1/2)
5 IN (A) 5
CN135
(1/2)
IC101
AQP B
AMP
CN135
(2/2)
6 OUT (A) 6
CN134
(2/2)
ECA(B)
IC201
DQP B
AMP
8 IN (B) 8
9 OUT (B) 9
+15V +50V
AQP B OUT
Q501-507, D502
−15V −50V
DQP B OUT
Q601-607, D602
POWER ON DELAY
Q4, 5
+12V
CN133
(1/2)
CN133
(2/2)
IC101
AQP G
AMP
ECA(G)
IC201
DQP G
AMP
AQP G OUT
Q301-307, D302
DQP G OUT
Q401-407, D402
CN132
(1/2)
CN132
(2/2)
IC101
AQP R
AMP
ECA(R)
IC201
DQP R
AMP
AQP R OUT
Q101-107, D102
DQP R OUT
Q201-207, D202
+15V
FAN REG
Q430
SWITCH
Q431
IC430 (1/2)
COMPARATER
TP43
IC430 (2/2)
COMPARATER
RV430
FAN ADJ
PROTECT
Q432

4-37

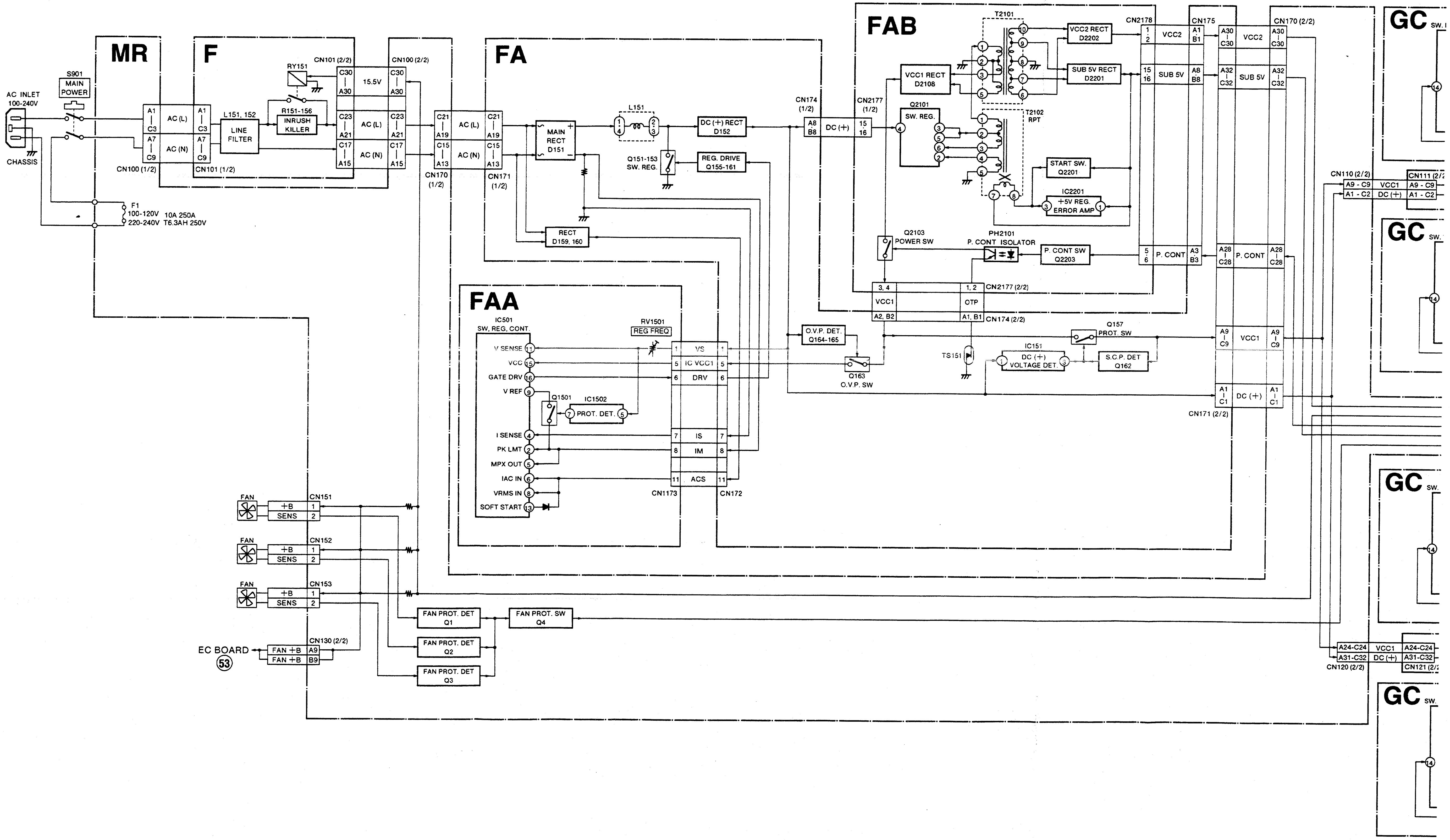

EB
EBA (R)
EBA (G)
EBA (B)
EBB
MR
MF
BM
DM
CN351
CN141
CN142
CN143
CN145
CN146
CN144
CN147
CN263
CN264
CN265
MR BOARD (50)
MR BOARD (53)
YB BOARD (30)
D BOARD (2/2) (42)
YB BOARD (29)
D BOARD (2/2) (41)
MR BOARD (51)
IC1 REG
IC2 REG
EC PROT. DET Q1, 3
IC302 MG. HR AMP
IC301 (1/2) MG. VR AMP
MG. HR OUT Q801-807
IC801 MG. VR OUT
IC302 MG. HG AMP
IC301 (1/2) MG. VG AMP
MG. HG OUT Q901-907
IC901 MG. VG OUT
IC302 MG. HB AMP
IC301 (1/2) MG. VB AMP
MG. HB OUT Q701-707
IC704 MG. VB OUT
IC402 (1/2) COMP.
IC402 (2/2) COMP.
IC401 COMP.
SW. DRIVE Q405-407
SW. DRIVE Q401-404
SWITCH Q1004
SWITCH Q1001
D1005
D1002
IC1002 REG
IC1001 REG
EB PROT. DET Q1003, 1005
+VCC (MG. H OUT)
-VCC (MG. H OUT)
+15.5V
-15.5V
+50V
-50V
+12V
-12V
+15V
-15V
FAN REG Q430
SWITCH Q431
IC430 (1/2) COMPARATER
IC430 (2/2) COMPARATER
IC431 (1/2) COMPARATER
TP430
TP431
IC432 REF DC
IC433 REF DC
PROTECT Q432
RV430 FAN ADJ
MGH, AQP, MGV, DQP (R)
MGH, AQP, MGV, DQP (G)
MGH, AQP, MGV, DQP (B)
EC PROT
FAN +B
AQP. B (IN)
AQP. B (RET)
AQP. B (OUT)
DQP. B (IN)
DQP. B (RET)
DQP. B (OUT)
AQP. G (IN)
AQP. G (RET)
AQP. G (OUT)
DQP. G (IN)
DQP. G (RET)
DQP. G (OUT)
AQP. R (IN)
AQP. R (RET)
AQP. R (OUT)
DQP. R (IN)
DQP. R (RET)
DQP. R (OUT)
EB. PROT
MG.H.R (IN)
MG.H.R (RET)
MG.H.R (OUT)
MG.V.R (IN)
MG.V.R (RET)
MG.V.R (OUT)
MG.H.G (IN)
MG.H.G (RET)
MG.H.G (OUT)
MG.V.G (IN)
MG.V.G (RET)
MG.V.G (OUT)
MG.H.B (IN)
MG.H.B (RET)
MG.H.B (OUT)
MG.V.B (IN)
MG.V.B (RET)
MG.V.B (OUT)
MG.1/2H
IN (H)
IN (V)
OUT (H)
OUT (V)
RET (V)
IN (R)
IN (G)
IN (B)
MG 1/2H
OUT (+)
OUT (-)

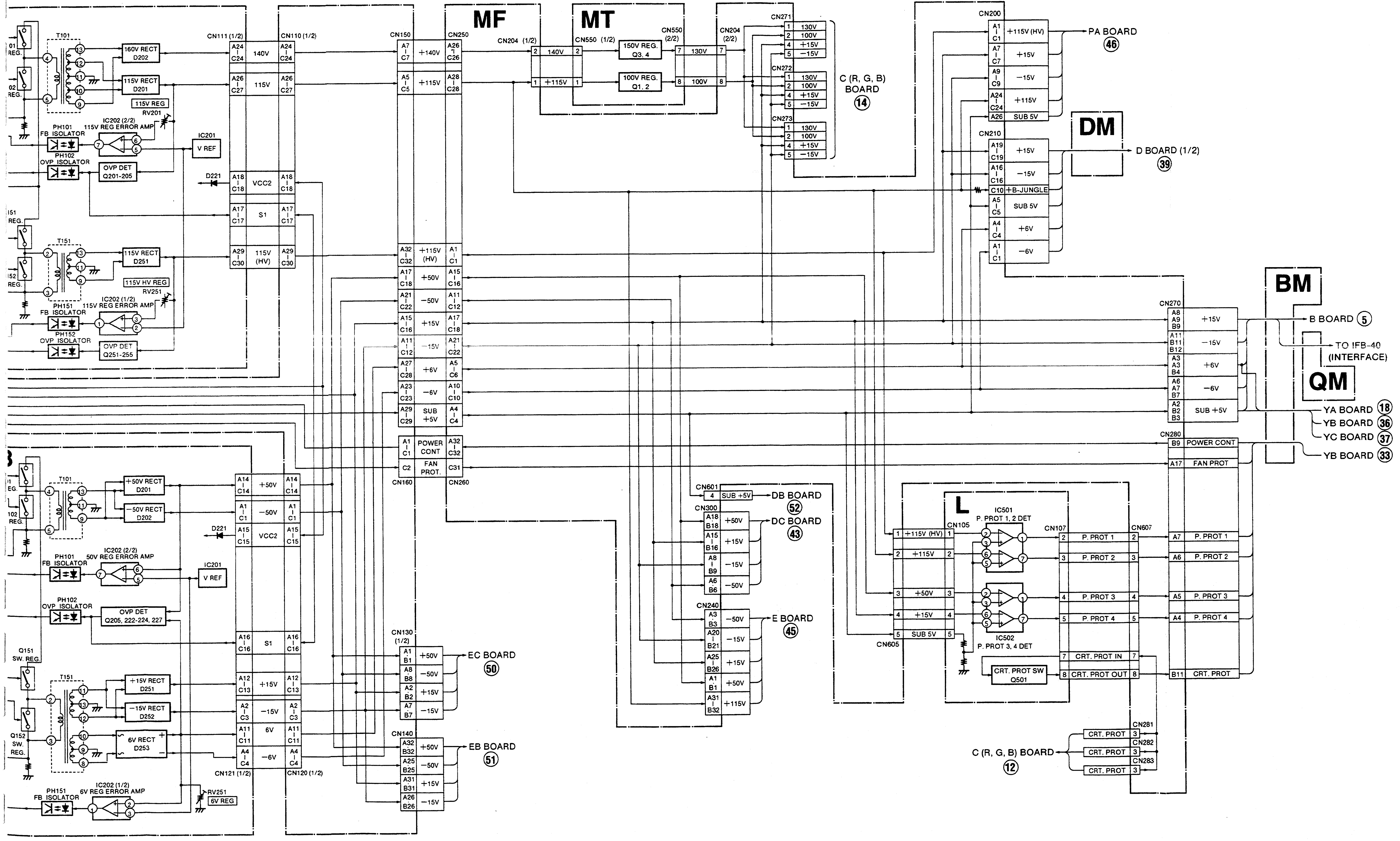
• PA, PB, NB BOARD and HV Block Diagrams


MF
PA
NB
PB
DM
BM
E BOARD ㊹
YB BOARD ㉒
C BOARD ⑬ (R) (G) (B)
MR BOARD ㊻
D BOARD ㉖
YB BOARD ㉜
B BOARD ⑧
CN400
N.POW (NEG, V)
G2 CONT (R)
G2 CONT (G)
G2 CONT (B)
LENS PROT
SIRCS-B
SUB +5V
−180V
+115V
HETER (F)
HETER (B)
+VPM
VPM
−VPM
+CENT
−CENT
HV.MOD(HV.RET)
F-V
REF
−15V
+15V
HV. PROT
IK PROT
LOT PROT
H. STOP
V. STOP
ABL
115V (HV)
+115V (HV)
CN408
CN650
SIRCS B
SUB +5V
IC650 IR RECEIVER
IC8 REG −12V
IC11 REG +12V
T1 LOT
RECT D10
RECT D13
RECT D14
RECT D16
RECT D54
REG Q39
RECT D21
RECT D24
+B (G2 OUT)
HEATER (F), (B)
−180V
L.O.T. PROT
L.O.T. PROT. Q18, Q20
CURRENT PROT Q16
INT. OSC
L.O.T. DRIVE Q19
T2
L.O.T. CONV Q17
+12V
REF
IC15 PIN MOD REG CONT
POWER ON BIAS Q25
PIN MOD REG DRIVE Q21,26, 30, 31
T4 SDT
PIN MOD REG Q22
N. POW (−B)
HV. DRV
HV. CONV DRIVE Q29
DRIVE CONTROL Q24, 23
REG.DRV
T3
+115V(HV)
HV. REG. OUT Q27, 28
CN401
FBT.HOT
ABL
COOL
FBT10
FBT11
TP7
IC16 (1/2) G2 CONT (R) AMP
G2 (R) OUT Q33, 36
CUT OFF SW Q35
IC16 (2/2) G2 CONT (G) AMP
G2 (G) OUT Q37, 43
CUT OFF SW Q40
IC18 (1/2) G2 CONT (B) AMP
G2 (B) OUT Q41, 44
CUT OFF SW Q42
15V
POWER OFF DET Q32
POWER ON DET Q34
H.STOP
V. STOP
CUT OFF SW Q5
HV. MOD
IC14 HV. MOD AMP
IC10 (1/2) HV. REG. DET
TP9
IC10 (2/2) HV. REG. CONTROL
IC3 (1/2) BUFF
IC7 (1/2) COMP
REG. DRV. OUT Q12, 13
IC13 HV. REG. REF
TP12
TP15
RV2 HV REG
TP11
REG PROT Q14
IC3 (2/2), Q3 TRAPEZOID WAVE FORMER
LENS PROT
Q11, 38 LENS PROT DET.
IC12 (1/2) OSC
X1 495kHz
IC9 DEV
CK Q2 Q3 Q4 Q5
IC4
DELAY
IC2
HV. DRV. BUFF Q7
REG. OSC BUFF Q4
TP5
TP3
IC12 (2/2)
INT OSC BUFF Q15
TP13
Q6 HV. STOP SW
Q1 HV. STOP SW
HV. PROT
IC7 (2/2) HV. PROT BUFF.
IC1 (2/2) HV. PROT DET.
IC4 (1/2) COMP.
IK. PROT
IC5 (2/2) IK. PROT BUFF.
IC5 (1/2) IK. PROT DET
ABL AMP Q2
TP1
TP2
RV1 HV PROT

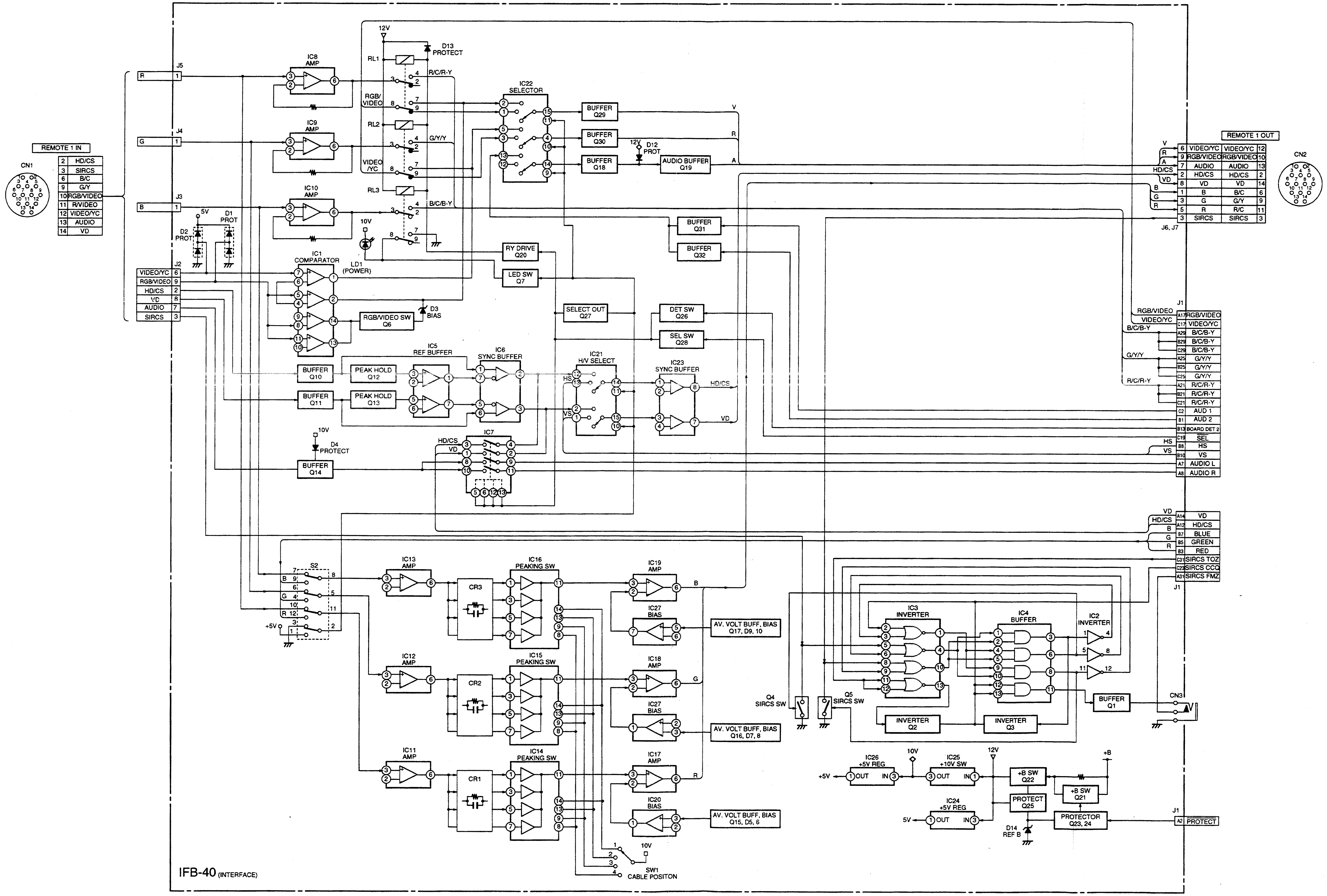

HV. DRV
HV. CONV DRIVE
Q29
T3
DRIVE CONTROL
Q24, 23
REG.DRV
+115V(HV)
HV. REG. OUT
Q27, 28
CN401
FBT.HOT
TP7
ABL
COOL
PB
FBT10
FBT11
HV
FILTER
HV
BLOCK
R HV
G HV
B HV
TO
PICTURE TUBE
(R) (G) (B)
(52)
HV. PROT
HV. REG
ABL
G2 CONT(R)
IC16 (1/2)
G2 CONT (R)
AMP
G2 (R) OUT
Q33, 36
CUT OFF SW
Q35
CN404
G2 OUT(R)
C (R) BOARD
(47)
G2 CONT(G)
IC16 (2/2)
G2 CONT (G)
AMP
G2 (G) OUT
Q37, 43
CUT OFF SW
Q40
CN405
G2 OUT (G)
C (G) BOARD
(48)
G2 CONT(B)
IC18 (1/2)
G2 CONT (B)
AMP
G2 (B) OUT
Q41, 44
CUT OFF SW
Q42
CN406
G2 OUT (B)
C (B) BOARD
(49)
15V
POWER OFF DET
Q32
POWER ON DET
Q34
H.STOP
V. STOP
CUT OFF SW
Q5
LENS PROT
Q11, 38
LENS
PROT
DET.
CN407
LENS (R)
LENS (G)
LENS (B)
CN403
HV.REG
I
O
HV.PROT
Q6
HV. STOP SW
Q1
HV. STOP SW
HV. PROT
IC7 (2/2)
HV. PROT
BUFF.
IC1 (2/2)
HV. PROT
DET.
IC4 (1/2)
COMP.
TP1
TP2
RV1
HV PROT
IK. PROT
IC5 (2/2)
IK. PROT
BUFF.
IC5 (1/2)
IK. PROT
DET
ABL AMP
Q2

• POWER Block Diagrams


MR
F
FA
FAA
FAB
GC
S901
MAIN POWER
AC INLET
100-240V
CHASSIS
F1
100-120V 10A 250A
220-240V T6.3AH 250V
CN100 (1/2)
AC (L)
AC (N)
L151, 152
LINE FILTER
RY151
R151-156
INRUSH KILLER
CN101 (2/2)
CN101 (1/2)
15.5V
CN100 (2/2)
CN170 (1/2)
CN171 (1/2)
MAIN RECT D151
L151
DC (+) RECT D152
Q151-153 SW. REG.
REG. DRIVE Q155-161
RECT D159, 160
CN174 (1/2)
CN2177 (1/2)
DC (+)
T2101
VCC1 RECT D2108
Q2101 SW. REG.
VCC2 RECT D2202
SUB 5V RECT D2201
T2102 RPT
START SW. Q2201
IC2201 +5V REG. ERROR AMP
CN2178
VCC2
SUB 5V
CN175
CN170 (2/2)
Q2103 POWER SW
PH2101 P. CONT ISOLATOR
P. CONT SW Q2203
P. CONT
CN2177 (2/2)
VCC1
OTP
CN174 (2/2)
IC501 SW. REG. CONT
RV1501 REG FREQ
V SENSE
VCC
GATE DRV
V REF
Q1501
IC1502 PROT. DET.
I SENSE
PK LMT
MPX OUT
IAC IN
VRMS IN
SOFT START
VS
IC VCC1
DRV
IS
IM
ACS
CN1173
CN172
O.V.P. DET. Q164-165
Q163 O.V.P. SW
Q157 PROT. SW
TS151
IC151 DC (+) VOLTAGE DET.
S.C.P. DET Q162
CN171 (2/2)
CN110 (2/2)
CN111 (2/2)
CN120 (2/2)
CN121 (2/2)
FAN
+B
SENS
CN151
CN152
CN153
FAN PROT. DET Q1
FAN PROT. DET Q2
FAN PROT. DET Q3
FAN PROT. SW Q4
EC BOARD ㊺3
FAN +B
CN130 (2/2)

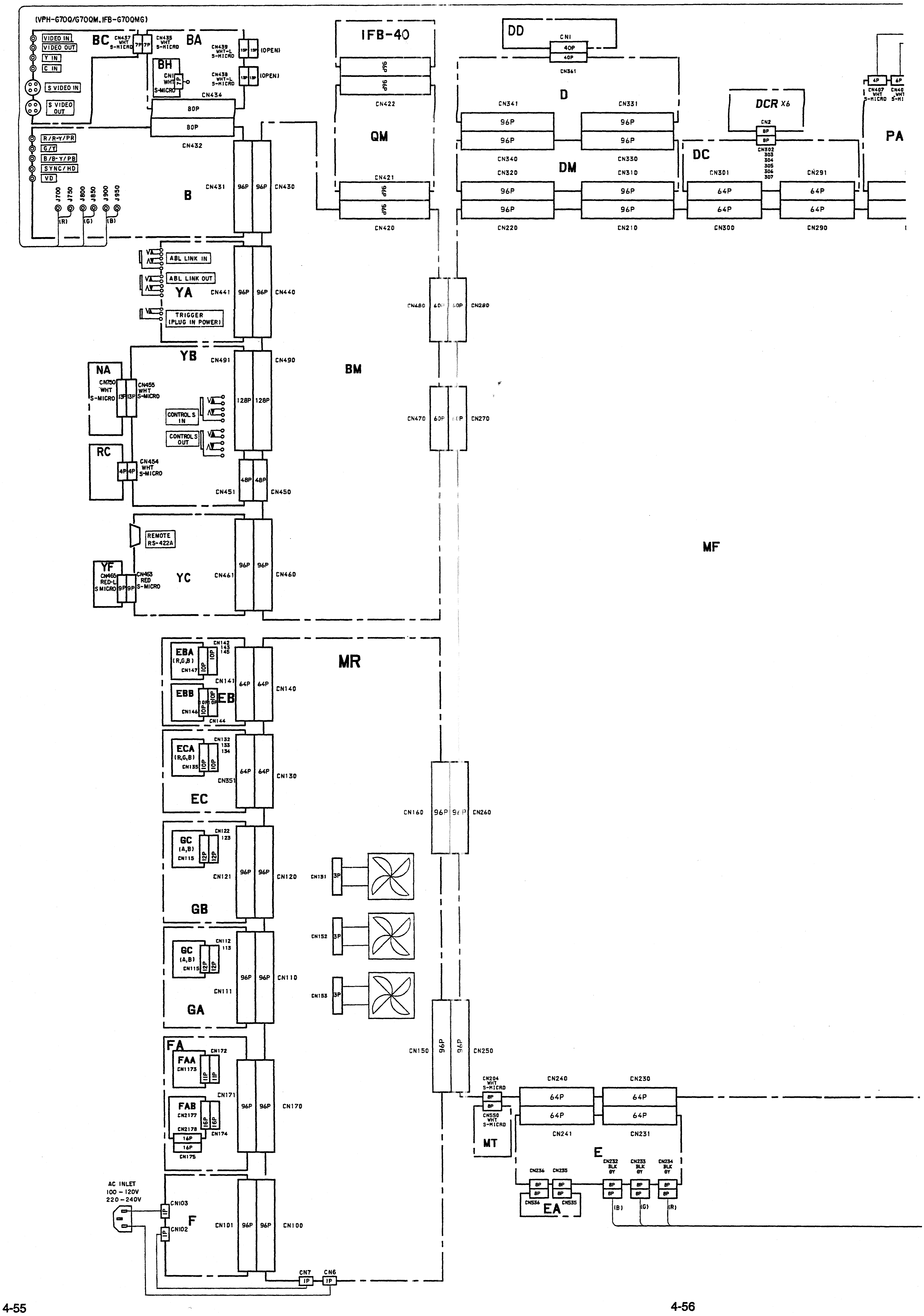

MF
MT
DM
BM
QM
L
T101
160V RECT D202
115V RECT D201
115V REG RV201
IC202 (2/2) 115V REG ERROR AMP
PH101 FB ISOLATOR
PH102 OVP ISOLATOR
OVP DET Q201-205
IC201 V REF
D221
T151
115V RECT D251
115V HV REG RV251
IC202 (1/2) 115V REG ERROR AMP
PH151 FB ISOLATOR
PH152 OVP ISOLATOR
OVP DET Q251-255
CN111 (1/2)
CN110 (1/2)
140V
115V
VCC2
S1
115V (HV)
CN150
CN250
+140V
+115V
+115V (HV)
+50V
−50V
+15V
−15V
+6V
−6V
SUB +5V
POWER CONT
FAN PROT.
CN160
CN260
CN204 (1/2)
CN550 (1/2)
150V REG. Q3, 4
100V REG. Q1, 2
CN550 (2/2)
CN204 (2/2)
130V
100V
CN271
CN272
CN273
C (R, G, B) BOARD (14)
CN200
+115V (HV)
SUB 5V
PA BOARD (46)
CN210
+B-JUNGLE
D BOARD (1/2) (39)
CN270
B BOARD (5)
TO IFB-40 (INTERFACE)
YA BOARD (18)
YB BOARD (36)
YC BOARD (37)
YB BOARD (33)
CN280
FAN PROT
T101
+50V RECT D201
−50V RECT D202
IC202 (2/2) 50V REG ERROR AMP
PH101 FB ISOLATOR
IC201 V REF
PH102 OVP ISOLATOR
OVP DET Q205, 222-224, 227
Q151 SW. REG.
T151
+15V RECT D251
−15V RECT D252
6V RECT D253
Q152 SW. REG.
PH151 FB ISOLATOR
IC202 (1/2) 6V REG ERROR AMP
RV251 6V REG
6V
CN121 (1/2)
CN120 (1/2)
CN130 (1/2)
EC BOARD (50)
CN140
EB BOARD (51)
CN601
DB BOARD (52)
CN300
DC BOARD (43)
CN240
E BOARD (45)
CN105
IC501 P. PROT 1, 2 DET
CN107
CN607
P. PROT 1
P. PROT 2
P. PROT 3
P. PROT 4
IC502 P. PROT 3, 4 DET
CN605
CRT. PROT IN
CRT. PROT SW Q501
CRT. PROT OUT
CRT. PROT
CN281
CN282
CN283
C (R, G, B) BOARD (12)

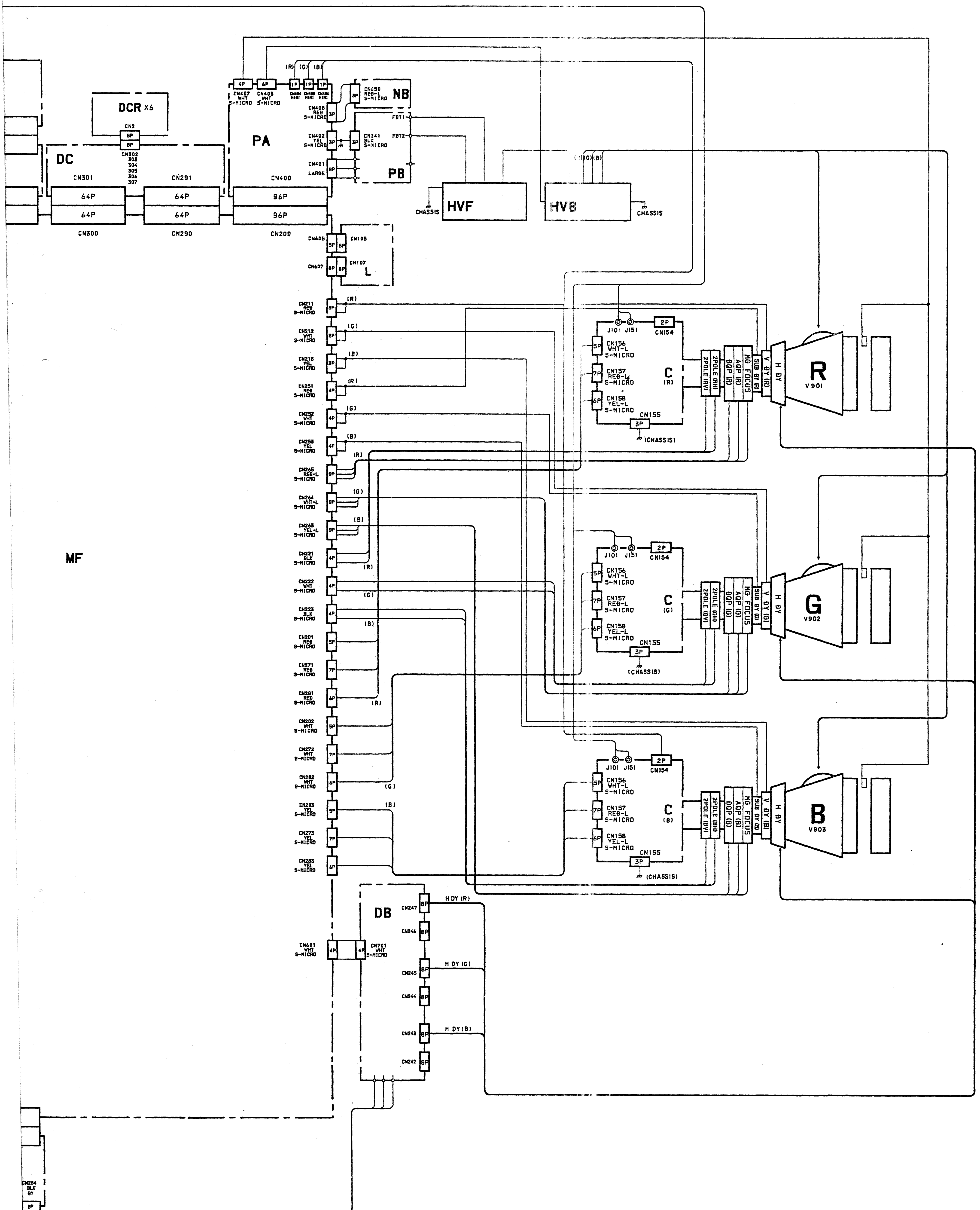
• IFB-40 Block Diagrams


REMOTE 1 IN
CN1
2 HD/CS
3 SIRCS
6 B/C
9 G/Y
10 RGB/VIDEO
11 R/VIDEO
12 VIDEO/YC
13 AUDIO
14 VD
J5
J4
J3
J2
R
G
B
VIDEO/YC 6
RGB/VIDEO 9
HD/CS 2
VD 8
AUDIO 7
SIRCS 3
IC8 AMP
IC9 AMP
IC10 AMP
IC1 COMPARATOR
LD1 (POWER)
D1 PROT
D2 PROT
D3 BIAS
D4 PROTECT
D12 PROT
D13 PROTECT
RL1
RL2
RL3
RGB/VIDEO
VIDEO/YC
R/C/R-Y
G/Y/Y
B/C/B-Y
12V
10V
5V
IC22 SELECTOR
BUFFER Q29
BUFFER Q30
BUFFER Q18
AUDIO BUFFER Q19
BUFFER Q31
BUFFER Q32
RY DRIVE Q20
LED SW Q7
RGB/VIDEO SW Q6
SELECT OUT Q27
DET SW Q26
SEL SW Q28
IC5 REF BUFFER
IC6 SYNC BUFFER
BUFFER Q10
BUFFER Q11
PEAK HOLD Q12
PEAK HOLD Q13
IC21 H/V SELECT
IC23 SYNC BUFFER
HS
VS
HD/CS
VD
IC7
BUFFER Q14
REMOTE 1 OUT
CN2
6 VIDEO/YC VIDEO/YC 12
9 RGB/VIDEO RGB/VIDEO 10
7 AUDIO AUDIO 13
2 HD/CS HD/CS 2
8 VD VD 14
1 B B/C 6
3 G G/Y 9
5 R R/C 11
3 SIRCS SIRCS 3
J6, J7
J1
A17 RGB/VIDEO
C17 VIDEO/YC
A29 B/C/B-Y
B29 B/C/B-Y
C29 B/C/B-Y
A25 G/Y/Y
B25 G/Y/Y
C25 G/Y/Y
A21 R/C/R-Y
B21 R/C/R-Y
C21 R/C/R-Y
C2 AUD 1
B1 AUD 2
B13 BOARD DET 2
C19 SEL
B8 HS
B10 VS
A7 AUDIO L
A8 AUDIO R
A14 VD
A12 HD/CS
B7 BLUE
B5 GREEN
B3 RED
C31 SIRCS TOZ
C29 SIRCS CCQ
A31 SIRCS FMZ
S2
+5V
IC13 AMP
IC12 AMP
IC11 AMP
CR3
CR2
CR1
IC16 PEAKING SW
IC15 PEAKING SW
IC14 PEAKING SW
IC19 AMP
IC18 AMP
IC17 AMP
IC27 BIAS
IC20 BIAS
AV. VOLT BUFF, BIAS Q17, D9, 10
AV. VOLT BUFF, BIAS Q16, D7, 8
AV. VOLT BUFF, BIAS Q15, D5, 6
SW1 CABLE POSITON
Q4 SIRCS SW
Q5 SIRCS SW
IC3 INVERTER
IC4 BUFFER
IC2 INVERTER
INVERTER Q2
INVERTER Q3
BUFFER Q1
CN3
IC26 +5V REG
IC25 +10V SW
IC24 +5V REG
OUT IN
+B SW Q22
+B SW Q21
PROTECT Q25
PROTECTOR Q23, 24
D14 REF B
+B
A2 PROTECT
IFB-40 (INTERFACE)

4-2. FRAME SCHEMATIC DIAGRAMS

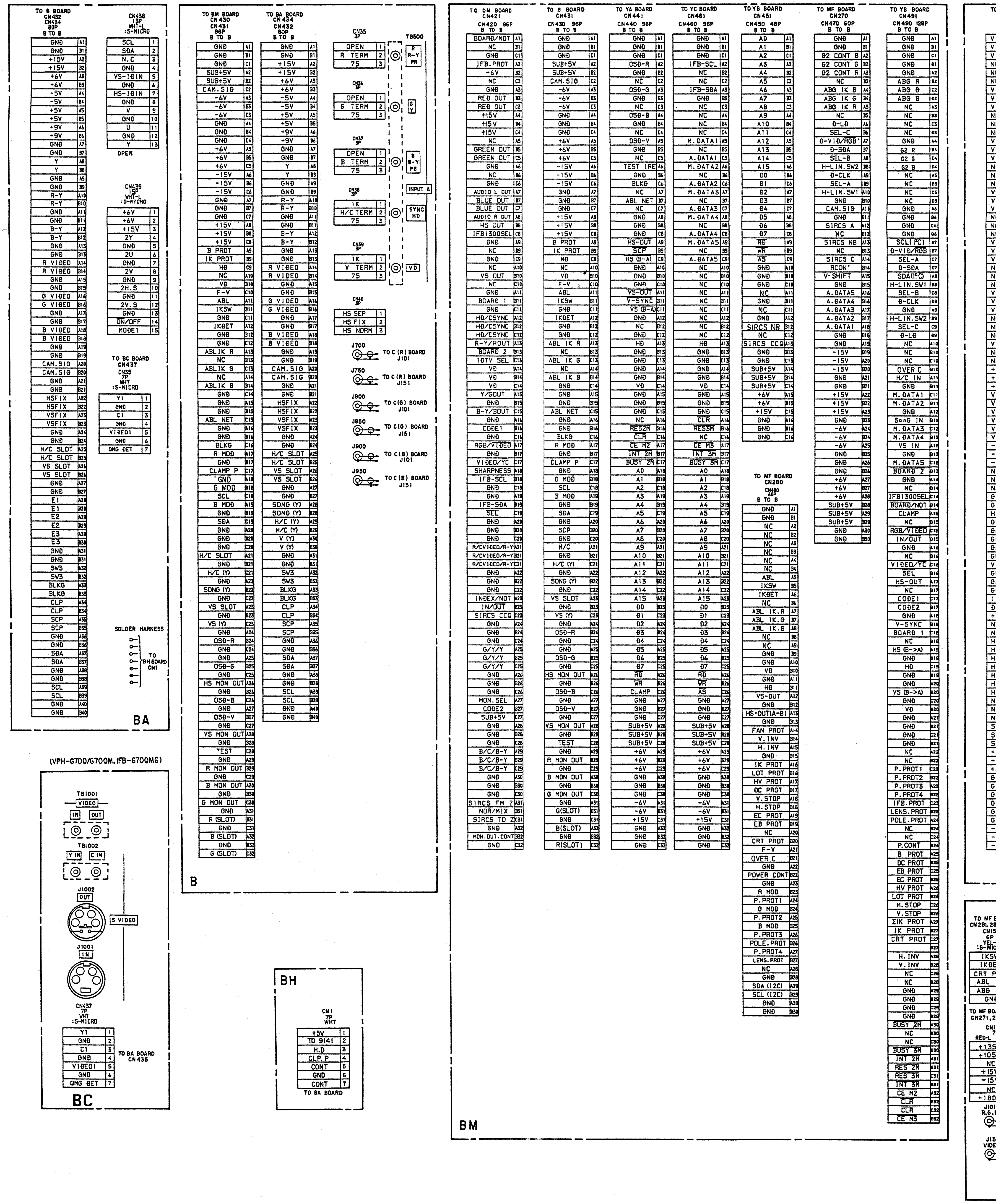
• FRAME SCHEMATIC DIAGRAM (1)

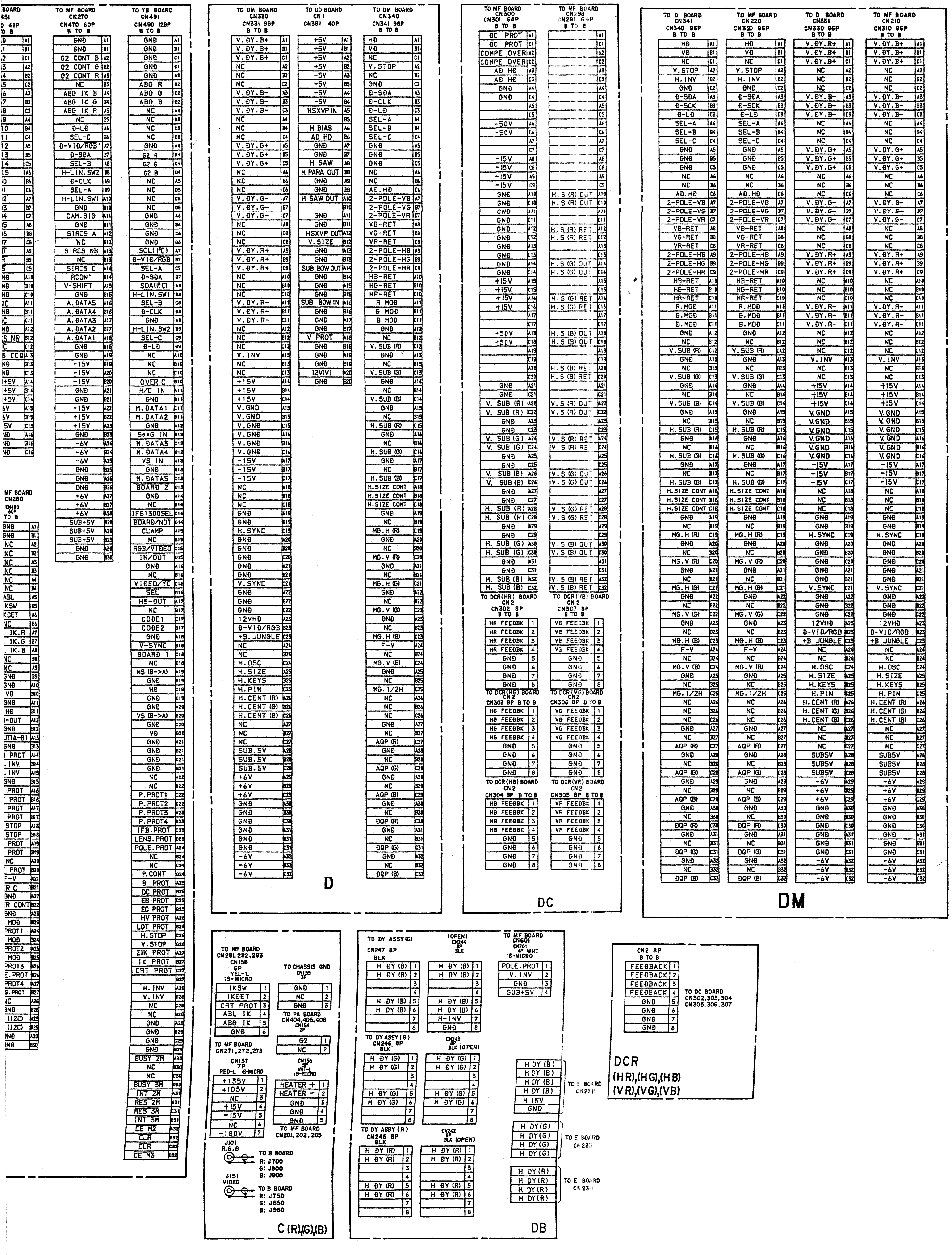

(VPH-G70Q/G70QM, IFB-G70QMG)
VIDEO IN
VIDEO OUT
Y IN
C IN
S VIDEO IN
S VIDEO OUT
BC
CN437 WHT S-MICRO
7P
CN435 WHT S-MICRO
BA
CN439 WHT-L S-MICRO
15P
(OPEN)
CN438 WHT-L S-MICRO
(OPEN)
BH
CN1 WHT S-MICRO
CN434
80P
CN432
R/R-Y/PR
G/Y
B/B-Y/PB
SYNC/HD
VD
J700
J750
J800
J850
J900
J950
(R)
(G)
(B)
B
CN431
96P
CN430
ABL LINK IN
ABL LINK OUT
YA
CN441
CN440
TRIGGER (PLUG IN POWER)
YB
CN491
CN490
NA
CN750 WHT S-MICRO
13P
CN455 WHT S-MICRO
128P
CONTROL S IN
CONTROL S OUT
RC
4P
CN454 WHT S-MICRO
48P
CN451
CN450
REMOTE RS-422A
YF
CN465 RED-L S-MICRO
9P
CN463 RED S-MICRO
YC
CN461
CN460
IFB-40
CN422
QM
CN421
CN420
CN480
40P
CN280
BM
CN470
60P
CN270
DD
CN1
40P
CN361
D
CN341
CN331
CN340
CN330
DM
CN320
CN310
CN220
CN210
DCR X6
CN2
8P
CN302 303 304 305 306 307
DC
CN301
CN291
64P
CN300
CN290
PA
CN407 WHT S-MICRO
4P
6P
MF
MR
EBA (R,G,B)
CN142 143 145
10P
CN147
CN141
64P
CN140
EBB
CN146
CN144
EB
ECA (R,G,B)
CN132 133 134
CN135
CN351
CN130
EC
GC (A,B)
CN122 123
12P
CN115
CN121
CN120
GB
CN131
3P
CN152
CN153
GC (A,B)
CN112 113
CN111
CN110
GA
CN160
CN260
FA
FAA
CN172
CN1173
11P
FAB
CN2177
CN2178
16P
CN174
CN175
CN171
CN170
CN150
CN250
CN204 WHT S-MICRO
CN240
CN230
CN550 WHT S-MICRO
MT
CN241
CN231
E
CN232 BLK 8Y
CN233 BLK 8Y
CN234 BLK 8Y
CN236
CN235
8P
CN536
CN535
EA
(B)
(G)
(R)
AC INLET 100 - 120V 220 - 240V
CN103
1P
CN102
F
CN101
CN100
CN7
CN6



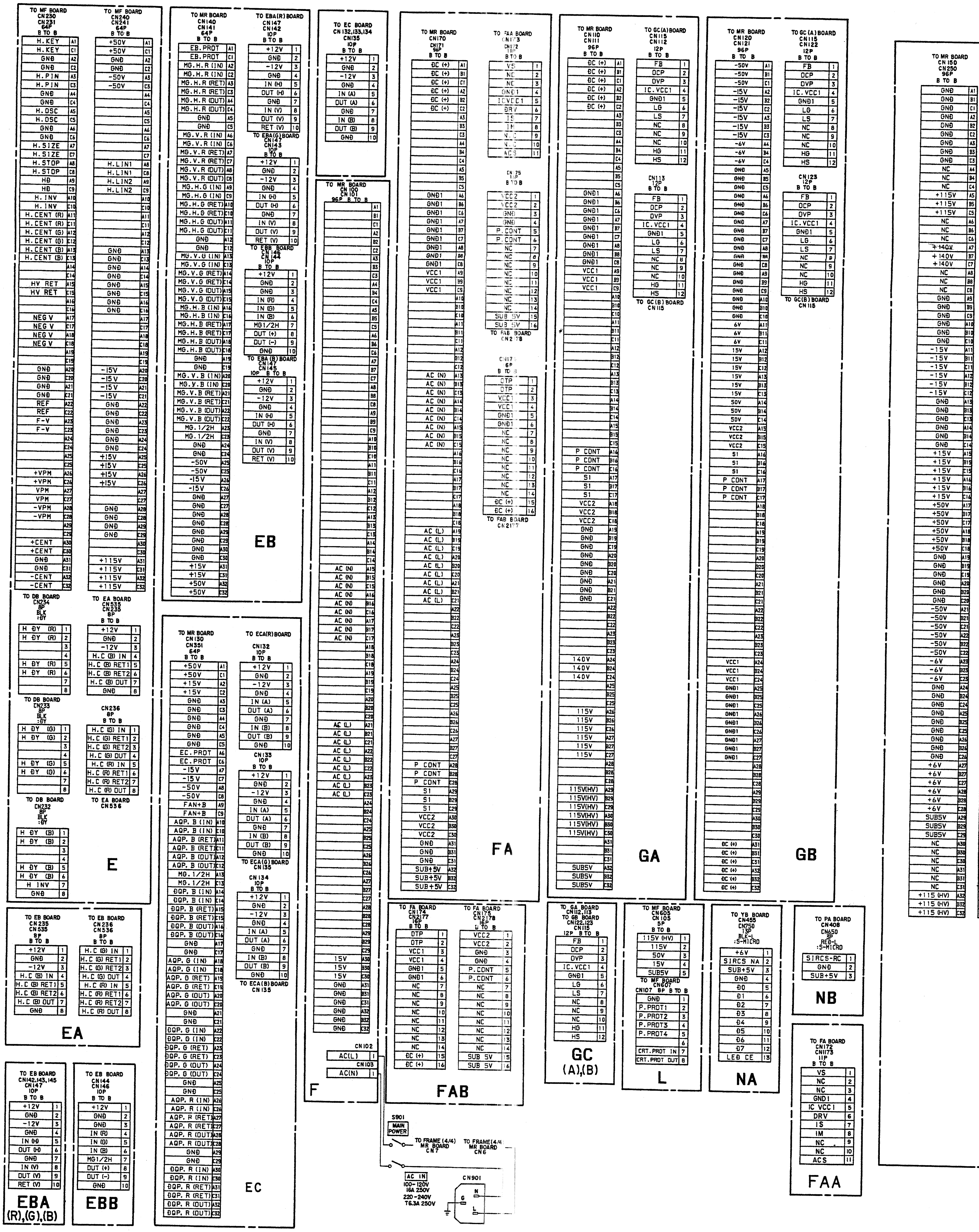
DCR X6
CN2
8P
8P
CN302
303
304
305
306
307
DC
CN301
CN291
64P
64P
64P
64P
CN300
CN290
4P
6P
(R)
(G)
(B)
1P
1P
1P
CN407 WHT S-MICRO
CN403 WHT S-MICRO
CN404 MINI
CN405 MINI
CN406 MINI
CN650 REB-L S-MICRO
NB
3P
CN408 RED S-MICRO
3P
CN402 YEL S-MICRO
3P
CN241 BLK S-MICRO
FBT1
FBT2
PA
CN401 LARGE
8P
PB
CN400
96P
96P
CN200
HVF
CHASSIS
HVB
CHASSIS
CN605
5P
5P
CN105
CN607
8P
8P
CN107
L
CN211 RED S-MICRO
3P
(R)
CN212 WHT S-MICRO
3P
(G)
CN213 YEL S-MICRO
3P
(B)
CN251 REB S-MICRO
4P
(R)
CN252 WHT S-MICRO
4P
(G)
CN253 YEL S-MICRO
4P
(B)
CN265 REB-L S-MICRO
9P
(R)
CN264 WHT-L S-MICRO
9P
(G)
CN263 YEL-L S-MICRO
9P
(B)
CN221 BLK S-MICRO
4P
(R)
CN222 WHT S-MICRO
4P
(G)
CN223 BLK S-MICRO
4P
(B)
CN201 REB S-MICRO
5P
CN271 REB S-MICRO
7P
CN281 REB S-MICRO
6P
(R)
CN202 WHT S-MICRO
5P
CN272 WHT S-MICRO
7P
CN282 WHT S-MICRO
6P
(G)
CN203 YEL S-MICRO
5P
(B)
CN273 YEL S-MICRO
7P
CN283 YEL S-MICRO
6P
MF
J101 J151
2P
CN154
5P
CN156 WHT-L S-MICRO
7P
CN157 REB-L S-MICRO
6P
CN158 YEL-L S-MICRO
C
(R)
CN155
3P
(CHASSIS)
2POLE (RV)
2POLE (RH)
8QP (R)
AQP (R)
MG FOCUS
SUB DY (R)
V DY (R)
H DY
R
V901
J101 J151
2P
CN154
5P
CN156 WHT-L S-MICRO
7P
CN157 REB-L S-MICRO
6P
CN158 YEL-L S-MICRO
C
(G)
CN155
3P
(CHASSIS)
2POLE (GV)
2POLE (GH)
8QP (G)
AQP (G)
MG FOCUS
SUB DY (G)
V DY (G)
H DY
G
V902
J101 J151
2P
CN154
5P
CN156 WHT-L S-MICRO
7P
CN157 REB-L S-MICRO
6P
CN158 YEL-L S-MICRO
C
(B)
CN155
3P
(CHASSIS)
2POLE (BV)
2POLE (BH)
8QP (B)
AQP (B)
MG FOCUS
SUB DY (B)
V DY (B)
H DY
B
V903
DB
CN247
8P
H DY (R)
CN246
8P
CN245
8P
H DY (G)
CN244
8P
CN243
8P
H DY (B)
CN242
8P
CN601 WHT S-MICRO
4P
4P
CN701 WHT S-MICRO
CN234 BLK 8Y
8P
8P
(R)

• FRAME SCHEMATIC DIAGRAM (2)


TO B BOARD CN432 CN434 80P B TO B
CN438 13P WHT-L :S-MICRO
OPEN
CN439 15P WHT-L :S-MICRO
TO BC BOARD CN437 CN35 7P WHT :S-MICRO
SOLDER HARNESS
TO BH BOARD CN1
BA
TO BM BOARD CN430 CN431 96P B TO B
TO BA BOARD CN434 CN432 80P B TO B
CN35 3P
TB500
R R-Y PR
G Y
B B-Y PB
INPUT A
SYNC HD
VD
CN36 3P
CN37 3P
CN38 3P
CN39 3P
CN40 3P
HS SEP
HS FIX
HS NORM
J700 TO C(R) BOARD J101
J750 TO C(R) BOARD J151
J800 TO C(G) BOARD J101
J850 TO C(G) BOARD J151
J900 TO C(B) BOARD J101
J950 TO C(B) BOARD J151
B
(VPH-G70Q/G70QM, IFB-G70QMG)
TB1001
VIDEO
IN
OUT
TB1002
Y IN
C IN
J1002
OUT
S VIDEO
J1001
IN
CN437 7P WHT :S-MICRO
TO BA BOARD CN435
BC
BH
CN1 7P WHT
+5V
TO 9141
H.D
CLP.P
CONT
GND
CONT
TO BA BOARD
TO DM BOARD CN421 CN420 96P B TO B
TO B BOARD CN431 CN430 96P B TO B
TO YA BOARD CN441 CN440 96P B TO B
TO YC BOARD CN461 CN460 96P B TO B
TO YB BOARD CN451 CN450 48P B TO B
TO MF BOARD CN270 CN470 60P B TO B
TO YB BOARD CN491 CN490 128P B TO B
TO MF BOARD CN280 CN480 60P B TO B
BM


TO MF BOARD CN270 CN470 60P B TO B
TO YB BOARD CN491 CN490 128P B TO B
MF BOARD CN280 CN480 40P TO B
TO DM BOARD CN330 CN331 96P B TO B
TO DD BOARD CN1 CN361 40P
TO DM BOARD CN340 CN341 96P B TO B
D
TO MF BOARD CN300 CN301 64P B TO B
TO MF BOARD CN290 CN291 64P B TO B
TO DCR(HR) BOARD CN2 CN302 8P B TO B
TO DCR(VB) BOARD CN2 CN307 8P B TO B
TO DCR(HG) BOARD CN2 CN303 8P B TO B
TO DCR(VG) BOARD CN2 CN306 8P B TO B
TO DCR(HB) BOARD CN2 CN304 8P B TO B
TO DCR(VR) BOARD CN2 CN305 8P B TO B
DC
TO D BOARD CN341 CN340 96P B TO B
TO MF BOARD CN220 CN320 96P B TO B
TO D BOARD CN331 CN330 96P B TO B
TO MF BOARD CN210 CN310 96P B TO B
DM
TO MF BOARD CN281, 282, 283 CN158 6P YEL-L :S-MICRO
IKSW
IKDET
CRT PROT
ABL IK
ABG IK
GND
TO CHASSIS GND CN155 3P
TO PA BOARD CN404, 405, 406 CN154 2P
G2
NC
TO MF BOARD CN271, 272, 273 CN157 7P RED-L :S-MICRO
+135V
+105V
NC
+15V
-15V
NC
-180V
CN156 3P WHT-L :S-MICRO
HEATER +
HEATER -
GND
GND
TO MF BOARD CN201, 202, 203
J101 R,G,B
TO B BOARD R: J700 G: J800 B: J900
J151 VIDEO
TO B BOARD R: J750 G: J850 B: J950
C (R),(G),(B)
TO DY ASSY (G) CN247 8P BLK
(OPEN) CN244 8P BLK
TO MF BOARD CN601 CN701 4P WHT :S-MICRO
POLE. PROT
V. INV
GND
SUB+5V
TO DY ASSY (G) CN246 8P BLK
CN243 8P BLK (OPEN)
TO DY ASSY (R) CN245 8P BLK
CN242 8P BLK (OPEN)
TO E BOARD CN232
TO E BOARD CN233
TO E BOARD CN234
DB
CN2 8P B TO B
FEEDBACK
GND
TO DC BOARD CN302, 303, 304 CN305, 306, 307
DCR (HR),(HG),(HB) (VR),(VG),(VB)

• FRAME SCHEMATIC DIAGRAM (3)


TO MF BOARD CN230 CN231 64P B TO B
TO MF BOARD CN240 CN241 64P B TO B
TO DB BOARD CN234 8P BLK :8Y
TO EA BOARD CN535 CN235 8P B TO B
TO DB BOARD CN233 8P BLK :8Y
CN236 8P B TO B
TO DB BOARD CN232 8P BLK :8Y
TO EA BOARD CN536
E
TO EB BOARD CN235 CN535 8P B TO B
TO EB BOARD CN236 CN536 8P B TO B
EA
TO EB BOARD CN142,143,145 CN147 10P B TO B
TO EB BOARD CN144 CN146 10P B TO B
EBA (R),(G),(B)
EBB
TO MR BOARD CN140 CN141 64P B TO B
TO EBA(R) BOARD CN147 CN142 10P B TO B
TO EBA(G) BOARD CN147 CN143 10P B TO B
TO EBB BOARD CN146 CN144 10P B TO B
TO EBA(B) BOARD CN147 CN145 10P B TO B
EB
TO MR BOARD CN130 CN351 64P B TO B
TO ECA(R) BOARD CN132 10P B TO B
CN133 10P B TO B
TO ECA(G) BOARD CN135
CN134 10P B TO B
TO ECA(B) BOARD CN135
EC
TO EC BOARD CN132,133,134 CN135 10P B TO B
TO MR BOARD CN100 CN101 96P B TO B
CN102
AC(L)
CN103
AC(N)
F
TO MR BOARD CN170 CN171 96P B TO B
TO FAA BOARD CN173 CN172 11P B TO B
CN175 11P B TO B
TO FAB BOARD CN2178
CN177 6P B TO B
TO FAB BOARD CN2177
FA
TO FA BOARD CN174 CN2177 16P B TO B
TO FA BOARD CN175 CN2178 16P B TO B
FAB
S901 MAIN POWER
TO FRAME (4/4) MR BOARD CN7
TO FRAME (4/4) MR BOARD CN6
AC IN 100-120V 16A 250V 220-240V T6.3A 250V
CN901
N
G
L
TO MR BOARD CN110 CN111 96P B TO B
TO GC(A) BOARD CN115 CN112 12P B TO B
CN113 12P B TO B
TO GC(B) BOARD CN115
GA
TO GA BOARD CN112,113 TO GB BOARD CN122,123 CN115 12P B TO B
GC (A),(B)
TO MR BOARD CN120 CN121 96P B TO B
TO GC(A) BOARD CN115 CN122 12P B TO B
CN123 12P B TO B
TO GC(B) BOARD CN115
GB
TO MF BOARD CN605 CN105 5P B TO B
TO MF BOARD CN607 CN107 8P B TO B
L
TO YB BOARD CN455 CN750 13P BLK-L :S-MICRO
NA
TO PA BOARD CN408 CN650 3P RED-L :S-MICRO
NB
TO FA BOARD CN172 CN1173 11P B TO B
FAA
TO MR BOARD CN150 CN250 96P B TO B

TO MR BOARD
CN120
CN121
96P
B TO B

-50V	A1
-50V	B1
-50V	C1
-15V	A2
-15V	B2
-15V	C2
-15V	A3
-15V	B3
-15V	C3
-6V	A4
-6V	B4
-6V	C4
GNĐ	A5
GNĐ	B5
GNĐ	C5
GNĐ	A6
GNĐ	B6
GNĐ	C6
GNĐ	A7
GNĐ	B7
GNĐ	C7
GNĐ	A8
GNĐ	B8
GNĐ	C8
GNĐ	A9
GNĐ	B9
GNĐ	C9
GNĐ	A10
GNĐ	B10
GNĐ	C10
6V	A11
6V	B11
6V	C11
15V	A12
15V	B12
15V	C12
15V	A13
15V	B13
15V	C13
50V	A14
50V	B14
50V	C14
VCC2	A15
VCC2	B15
VCC2	C15
S1	A16
S1	B16
S1	C16
P CONT	A17
P CONT	B17
P CONT	C17
	A18
	B18
	C18
	A19
	B19
	C19
	A20
	B20
	C20
	A21
	B21
	C21
	A22
	B22
	C22
	A23
	B23
	C23
VCC1	A24
VCC1	B24
VCC1	C24
GNĐ1	A25
GNĐ1	B25
GNĐ1	C25
GNĐ1	A26
GNĐ1	B26
GNĐ1	C26
GNĐ1	A27
GNĐ1	B27
GNĐ1	C27
	A28
	B28
	C28
	A29
	B29
	C29
	A30
	B30
	C30
ĐC (+)	A31
ĐC (+)	B31
ĐC (+)	C31
ĐC (+)	A32
ĐC (+)	B32
ĐC (+)	C32

TO GC (A) BOARD
CN115
CN122
12P
B TO B

FB	1
OCP	2
OVP	3
IC.VCC1	4
GNĐ1	5
LG	6
LS	7
NC	8
NC	9
NC	10
HG	11
HS	12

CN123
12P
B TO B

FB	1
OCP	2
OVP	3
IC.VCC1	4
GNĐ1	5
LG	6
LS	7
NC	8
NC	9
NC	10
HG	11
HS	12

TO GC(B) BOARD
CN115

GB

TO YB BOARD
CN455
CN750
13P
BLK-L
:S-MICRO

+6V	1
SIRCS NA	2
SUB+5V	3
GNĐ	4
Đ0	5
Đ1	6
Đ2	7
Đ3	8
Đ4	9
Đ5	10
Đ6	11
Đ7	12
LEĐ CE	13

NA

TO PA BOARD
CN408
CN650
3P
REĐ-L
:S-MICRO

SIRCS-RC	1
GNĐ	2
SUB+5V	3

NB

TO FA BOARD
CN172
CN1173
11P
B TO B

VS	1
NC	2
NC	3
GND1	4
IC VCC1	5
DRV	6
IS	7
IM	8
NC	9
NC	10
ACS	11

FAA

TO MR BOARD
CN150
CN250
96P
B TO B

GNĐ	A1
GNĐ	B1
GNĐ	C1
GNĐ	A2
GNĐ	B2
GNĐ	C2
GNĐ	A3
GNĐ	B3
GNĐ	C3
NC	A4
NC	B4
NC	C4
+115V	A5
+115V	B5
+115V	C5
NC	A6
NC	B6
NC	C6
+140V	A7
+140V	B7
+140V	C7
NC	A8
NC	B8
NC	C8
GNĐ	A9
GNĐ	B9
GNĐ	C9
GNĐ	A10
GNĐ	B10
GNĐ	C10
-15V	A11
-15V	B11
-15V	C11
-15V	A12
-15V	B12
-15V	C12
GNĐ	A13
GNĐ	B13
GNĐ	C13
GNĐ	A14
GNĐ	B14
GNĐ	C14
+15V	A15
+15V	B15
+15V	C15
+15V	A16
+15V	B16
+15V	C16
+50V	A17
+50V	B17
+50V	C17
+50V	A18
+50V	B18
+50V	C18
GNĐ	A19
GNĐ	B19
GNĐ	C19
GNĐ	A20
GNĐ	B20
GNĐ	C20
-50V	A21
-50V	B21
-50V	C21
-50V	A22
-50V	B22
-50V	C22
-6V	A23
-6V	B23
-6V	C23
GNĐ	A24
GNĐ	B24
GNĐ	C24
GNĐ	A25
GNĐ	B25
GNĐ	C25
GNĐ	A26
GNĐ	B26
GNĐ	C26
+6V	A27
+6V	B27
+6V	C27
+6V	A28
+6V	B28
+6V	C28
SUB5V	A29
SUB5V	B29
SUB5V	C29
NC	A30
NC	B30
NC	C30
NC	A31
NC	B31
NC	C31
+115 (HV)	A32
+115 (HV)	B32
+115 (HV)	C32

TO MR BOARD
CN160
CN260
96P
B TO B

AQP.B (RET)	A1
AQP.B (RET)	B1
AQP.B (RET)	C1
AQP.B (OUT)	A2
AQP.B (OUT)	B2
AQP.B (OUT)	C2
ĐQP.B (RET)	A3
ĐQP.B (RET)	B3
ĐQP.B (RET)	C3
ĐQP.B (OUT)	A4
ĐQP.B (OUT)	B4
ĐQP.B (OUT)	C4
AQP.G (RET)	A5
AQP.G (RET)	B5
AQP.G (RET)	C5
AQP.G (OUT)	A6
AQP.G (OUT)	B6
AQP.G (OUT)	C6
ĐQP.G (RET)	A7
ĐQP.G (RET)	B7
ĐQP.G (RET)	C7
ĐQP.G (OUT)	A8
ĐQP.G (OUT)	B8
ĐQP.G (OUT)	C8
AQP.R (RET)	A9
AQP.R (RET)	B9
AQP.R (RET)	C9
AQP.R (OUT)	A10
AQP.R (OUT)	B10
AQP.R (OUT)	C10
ĐQP.R (RET)	A11
ĐQP.R (RET)	B11
ĐQP.R (RET)	C11
ĐQP.R (OUT)	A12
ĐQP.R (OUT)	B12
ĐQP.R (OUT)	C12
MG.VB (OUT)	A13
MG.VB (OUT)	B13
MG.VB (OUT)	C13
MG.VB (RET)	A14
MG.VB (RET)	B14
MG.VB (RET)	C14
MG.HB (OUT)	A15
MG.HB (OUT)	B15
MG.HB (OUT)	C15
MG.HB (RET)	A16
MG.HB (RET)	B16
MG.HB (RET)	C16
MG.VG (OUT)	A17
MG.VG (OUT)	B17
MG.VG (OUT)	C17
MG.VG (RET)	A18
MG.VG (RET)	B18
MG.VG (RET)	C18
MG.HG (OUT)	A19
MG.HG (OUT)	B19
MG.HG (OUT)	C19
MG.HG (RET)	A20
MG.HG (RET)	B20
MG.HG (RET)	C20
MG.VR (OUT)	A21
MG.VR (OUT)	B21
MG.VR (OUT)	C21
MG.VR (RET)	A22
MG.VR (RET)	B22
MG.VR (RET)	C22
MG.HR (OUT)	A23
MG.HR (OUT)	B23
MG.HR (OUT)	C23
MG.HR (RET)	A24
MG.HR (RET)	B24
MG.HR (RET)	C24
GNĐ	A25
GNĐ	B25
MG.1/2H	C25
MG.V (B)	A26
MG.V (G)	B26
MG.V (R)	C26
MG.H (B)	A27
MG.H (G)	B27
MG.H (R)	C27
GNĐ	A28
GNĐ	B28
GNĐ	C28
ĐQP (R)	A29
ĐQP (G)	B29
ĐQP (B)	C29
AQP (R)	A30
AQP (G)	B30
AQP (B)	C30
EB.PROT	A31
EC.PROT	B31
FAN PROT	C31
POWER CONT	A32
POWER CONT	B32
POWER CONT	C32

TO PA BOARD
CN400
CN200
96P
B TO B

115V (HV)	A1
115V (HV)	B1
115V (HV)	C1
NC	A2
NC	B2
NC	C2
GNĐ (HV)	A3
GNĐ (HV)	B3
GNĐ (HV)	C3
ABL	A4
ABL	B4
ABL	C4
H.STOP	A5
V.STOP	B5
NC	C5
HV PROT	A6
IK PROT	B6
LOT PROT	C6
+15V	A7
+15V	B7
+15V	C7
GNĐ	A8
GNĐ	B8
GNĐ	C8
-15V	A9
-15V	B9
-15V	C9
GNĐ	A10
GNĐ	B10
GNĐ	C10
F-V	A11
GNĐ	B11
REF	C11
HV.MOĐ	A12
HV.MOĐ	B12
HV.MOĐ	C12
-CENT	A13
-CENT	B13
-CENT	C13
GNĐ	A14
GNĐ	B14
GNĐ	C14
+CENT	A15
+CENT	B15
+CENT	C15
NC	A16
NC	B16
NC	C16
-VPM	A17
-VPM	B17
-VPM	C17
VPM	A18
VPM	B18
VPM	C18
+VPM	A19
+VPM	B19
+VPM	C19
NC	A20
NC	B20
NC	C20
HEATER (B)	A21
HEATER (B)	B21
HEATER (B)	C21
HEATER (F)	A22
HEATER (F)	B22
HEATER (F)	C22
NC	A23
NC	B23
NC	C23
115V	A24
115V	B24
115V	C24
NC	A25
NC	B25
NC	C25
SUB5V	A26
NC	B26
-180V	C26
LENS.PROT	A27
SIRCS-B	B27
NC	C27
G2 CONT (R)	A28
G2 CONT (G)	B28
G2 CONT (B)	C28
GNĐ	A29
GNĐ	B29
GNĐ	C29
NC	A30
NC	B30
NC	C30
N.POW	A31
N.POW	B31
N.POW	C31
N.POW	A32
N.POW	B32
N.POW	C32

TO DM BOARD
CN320
CN220
96P
B TO B

GNĐ	A1
NC	B1
ĐQP (B)	C1
GNĐ	A2
NC	B2
ĐQP (G)	C2
GNĐ	A3
NC	B3
ĐQP (R)	C3
GNĐ	A4
NC	B4
AQP (B)	C4
GNĐ	A5
NC	B5
AQP (G)	C5
GNĐ	A6
NC	B6
AQP (R)	C6
GNĐ	A7
NC	B7
NC	C7
GNĐ	A8
NC	B8
MG.1/2H	C8
F-V	A9
NC	B9
MG.V (B)	C9
GNĐ	A10
NC	B10
MG.H (B)	C10
GNĐ	A11
NC	B11
MG.V (G)	C11
GNĐ	A12
NC	B12
MG.H (G)	C12
GNĐ	A13
NC	B13
MG.V (R)	C13
GNĐ	A14
NC	B14
MG.H (R)	C14
OVER.C	A15
OVER.C	B15
OVER.C	C15
GNĐ	A16
NC	B16
H.SUB (B)	C16
GNĐ	A17
NC	B17
H.SUB (G)	C17
GNĐ	A18
NC	B18
H.SUB (R)	C18
GNĐ	A19
NC	B19
V.SUB (B)	C19
GNĐ	A20
NC	B20
V.SUB (G)	C20
GNĐ	A21
NC	B21
V.SUB (R)	C21
R.MOĐ	A22
G.MOĐ	B22
B.MOĐ	C22
HB-RET	A23
HG-RET	B23
HR-RET	C23
2-POLE-HB	A24
2-POLE-HG	B24
2-POLE-HR	C24
VB-RET	A25
VG-RET	B25
VR-RET	C25
2-POLE-VB	A26
2-POLE-VG	B26
2-POLE-VR	C26
NC	A27
NC	B27
AĐ.HĐ	C27
GNĐ	A28
GNĐ	B28
GNĐ	C28
SEL-A	A29
SEL-B	B29
SEL-C	C29
Đ-SĐA	A30
Đ-CLK	B30
Đ-LĐ	C30
V.STOP	A31
H.INV	B31
GNĐ	C31
HĐ	A32
VĐ	B32
NC	C32

TO DM BOARD
CN310
CN210
96P
B TO B

-6V	A1
-6V	B1
-6V	C1
GNĐ	A2
GNĐ	B2
GNĐ	C2
GNĐ	A3
GNĐ	B3
GNĐ	C3
+6V	A4
+6V	B4
+6V	C4
SUB5V	A5
SUB5V	B5
SUB5V	C5
NC	A6
NC	B6
NC	C6
H.CENT (R)	A7
H.CENT (G)	B7
H.CENT (B)	C7
H.SIZE	A8
H.KEYS	B8
H.PIN	C8
NC	A9
NC	B9
H.OSC	C9
12VHĐ	A10
Đ-VIĐ/RGB	B10
+B-JUNGLE	C10
GNĐ	A11
GNĐ	B11
GNĐ	C11
GNĐ	A12
GNĐ	B12
V.SYNC	C12
GNĐ	A13
GNĐ	B13
GNĐ	C13
GNĐ	A14
GNĐ	B14
H.SYNC	C14
NC	A15
NC	B15
NC	C15
-15V	A16
-15V	B16
-15V	C16
GNĐ	A17
GNĐ	B17
GNĐ	C17
GNĐ	A18
GNĐ	B18
GNĐ	C18
+15V	A19
+15V	B19
+15V	C19
V.INV	A20
NC	B20
NC	C20
NC	A21
NC	B21
NC	C21
V.ĐY.R-	A22
V.ĐY.R-	B22
V.ĐY.R-	C22
NC	A23
NC	B23
NC	C23
V.ĐY.R+	A24
V.ĐY.R+	B24
V.ĐY.R+	C24
NC	A25
NC	B25
NC	C25
V.ĐY.G-	A26
V.ĐY.G-	B26
V.ĐY.G-	C26
NC	A27
NC	B27
NC	C27
V.ĐY.G+	A28
V.ĐY.G+	B28
V.ĐY.G+	C28
NC	A29
NC	B29
NC	C29
V.ĐY.B-	A30
V.ĐY.B-	B30
V.ĐY.B-	C30
NC	A31
NC	B31
NC	C31
V.ĐY.B+	A32
V.ĐY.B+	B32
V.ĐY.B+	C32

TO DC BOARD
CN291
CN290
64P
B TO B

NC	A1
NC	B1
NC	A2
NC	B2
NC	A3
NC	B3
NC	A4
NC	B4
NC	A5
NC	B5
NC	A6
NC	B6
NC	A7
NC	B7
NC	A8
NC	B8
NC	A9
NC	B9
H.SUB.ROOT	A10
H.SUB.ROOT	B10
NC	A11
NC	B11
H.SUB.RRET	A12
H.SUB.RRET	B12
NC	A13
NC	B13
H.SUB.GOUT	A14
H.SUB.GOUT	B14
NC	A15
NC	B15
H.SUB.GRET	A16
H.SUB.GRET	B16
NC	A17
NC	B17
H.SUB.BOUT	A18
H.SUB.BOUT	B18
NC	A19
NC	B19
H.SUB.BRET	A20
H.SUB.BRET	B20
NC	A21
NC	B21
V.SUB.ROUT	A22
V.SUB.ROUT	B22
NC	A23
NC	B23
V.SUB.RRET	A24
V.SUB.RRET	B24
NC	A25
NC	B25
V.SUB.GOUT	A26
V.SUB.GOUT	B26
NC	A27
NC	B27
V.SUB.GRET	A28
V.SUB.GRET	B28
NC	A29
NC	B29
V.SUB.BOUT	A30
V.SUB.BOUT	B30
NC	A31
NC	B31
V.SUB.BRET	A32
V.SUB.BRET	B32

TO E BOARD
CN241
CN240
64P.
B TO B

+50V	A1
+50V	B1
GNĐ	A2
GNĐ	B2
-50V	A3
-50V	B3
NC	A4
NC	B4
NC	A5
NC	B5
NC	A6
NC	B6
NC	A7
NC	B7
H.LIN1	A8
H.LIN1	B8
H.LIN2	A9
H.LIN2	B9
NC	A10
NC	B10
NC	A11
NC	B11
NC	A12
NC	B12
GNĐ	A13
GNĐ	B13
GNĐ	A14
GNĐ	B14
GNĐ	A15
GNĐ	B15
GNĐ	A16
GNĐ	B16
NC	A17
NC	B17
NC	A18
NC	B18
NC	A19
NC	B19
-15V	A20
-15V	B20
-15V	A21
-15V	B21
GNĐ	A22
GNĐ	B22
GNĐ	A23
GNĐ	B23
GNĐ	A24
GNĐ	B24
+15V	A25
+15V	B25
+15V	A26
+15V	B26
NC	A27
NC	B27
GNĐ	A28
GNĐ	B28
GNĐ	A29
GNĐ	B29
NC	A30
NC	B30
+115V	A31
+115V	B31
+115V	A32
+115V	B32

TO DC BOARD
CN301
CN300
64P
B TO B

ĐC.PROT	A1
ĐC.PROT	B1
OVER IK	A2
OVER IK	B2
AĐ.HĐ	A3
AĐ.HĐ	B3
GNĐ	A4
GNĐ	B4
NC	A5
NC	B5
-50V	A6
-50V	B6
NC	A7
NC	B7
-15V	A8
-15V	B8
-15V	A9
-15V	B9
GNĐ	A10
GNĐ	B10
GNĐ	A11
GNĐ	B11
GNĐ	A12
GNĐ	B12
GNĐ	A13
GNĐ	B13
GNĐ	A14
GNĐ	B14
+15V	A15
+15V	B15
+15V	A16
+15V	B16
NC	A17
NC	B17
+50V	A18
+50V	B18
NC	A19
NC	B19
NC	A20
NC	B20
GND	A21
GND	B21
V.SUB (R)	A22
V.SUB (R)	B22
GNĐ	A23
GNĐ	B23
V.SUB (G)	A24
V.SUB (G)	B24
GNĐ	A25
GNĐ	B25
V.SUB (B)	A26
V.SUB (B)	B26
GNĐ	A27
GNĐ	B27
H.SUB (R)	A28
H.SUB (R)	B28
GNĐ	A29
GNĐ	B29
H.SUB (G)	A30
H.SUB (G)	B30
GNĐ	A31
GNĐ	B31
H.SUB (B)	A32
H.SUB (B)	B32

TO E BOARD
CN231
CN230
64P
B TO B

H.KEY	A1
H.KEY	B1
GNĐ	A2
GNĐ	B2
H.PIN	A3
H.PIN	B3
GNĐ	A4
GNĐ	B4
H.OSC	A5
H.OSC	B5
GNĐ	A6
GNĐ	B6
H.SIZE	A7
H.SIZE	B7
H.STOP	A8
H.STOP	B8
HĐ	A9
HĐ	B9
H.INV	A10
H.INV	B10
H.CENT (R)	A11
H.CENT (R)	B11
H.CENT (G)	A12
H.CENT (G)	B12
H.CENT (B)	A13
H.CENT (B)	B13
NC	A14
NC	B14
HV.RET	A15
HV.RET	B15
NC	A16
NC	B16
N.POW	A17
N.POW	B17
N.POW	A18
N.POW	B18
NC	A19
NC	B19
GNĐ	A20
GNĐ	B20
GNĐ	A21
GNĐ	B21
REF	A22
REF	B22
F-V	A23
F-V	B23
NC	A24
NC	B24
NC	A25
NC	B25
+VPM	A26
+VPM	B26
VPM	A27
VPM	B27
-VPM	A28
-VPM	B28
NC	A29
NC	B29
+CENT	A30
+CENT	B30
GNĐ	A31
GNĐ	B31
-CENT	A32
-CENT	B32

TO BM BOARD
CN480
CN280
60P
B TO B

GNĐ	A1
GNĐ	B1
NC	A2
NC	B2
NC	A3
GNĐ	B3
P.PROT4	A4
LENS PROT	B4
P.PROT3	A5
POLE PROT	B5
P.PROT2	A6
B.MOĐ	B6
P.PROT1	A7
G.MOĐ	B7
GNĐ	A8
R.MOĐ	B8
GNĐ	A9
POWER CONT	B9
F-V	A10
OVER.C	B10
NC	A11
CRT.PROT	B11
EC PROT	A12
EB PROT	B12
V.STOP	A13
H.STOP	B13
HV PROT	A14
ĐC PROT	B14
IK PROT	A15
LOT PROT	B15
H.INV	A16
GNĐ	B16
FAN PROT	A17
V.INV	B17
HS-OUT	A18
GNĐ	B18
VS-OUT	A19
GNĐ	B19
GNĐ	A20
HĐ	B20
GNĐ	A21
VĐ	B21
LEĐ-CE	A22
GNĐ	B22
ABLIK-B	A23
D7	B23
ABLIK-R	A24
ABLIK-G	B24
IK ĐET	A25
Đ6	B25
ABL	A26
IKSW	B26
D4	A27
D5	B27
D2	A28
D3	B28
D0	A29
D1	B29
GNĐ	A30
GNĐ	B30

TO BM BOARD
CN470
CN270
60P
B TO B

GNĐ	A1
GNĐ	B1
SUB5V	A2
SUB5V	B2
6V	A3
SUB5V	B3
6V	A4
6V	B4
GNĐ	A5
GNĐ	B5
-6V	A6
GNĐ	B6
-6V	A7
-6V	B7
+15V	A8
GNĐ	B8
+15V	A9
+15V	B9
GNĐ	A10
GNĐ	B10
-15V	A11
-15V	B11
GNĐ	A12
-15V	B12
A.DATA1	A13
GNĐ	B13
A.DATA3	A14
A.DATA2	B14
A.DATA5	A15
A.DATA4	B15
V-SHIFT	A16
GNĐ	B16
SIRCS C	A17
RCON	B17
SIRCS B	A18
NC	B18
SIRCS A	A19
NC	B19
CAM.SIG	A20
GNĐ	B20
H-LIN.SW1	A21
GNĐ	B21
Đ-CLK	A22
SEL-A	B22
SEL-B	A23
H-LIN.SW2	B23
Đ-VIĐ/RGB*	A24
Đ-SĐA	B24
Đ-LĐ	A25
SEL-C	B25
ABG.IK R	A26
NC	B26
ABG.IK G	A27
ABG.IK B	B27
G2 CONT R	A28
NC	B28
G2 CONT B	A29
G2 CONT G	B29
GNĐ	A30
GNĐ	B30

CN607
8P
B TO B
①

GNĐ	1
P.PROT1	2
P.PROT2	3
P.PROT3	4
P.PROT4	5
NC	6
CRT.PROT IN	7
CRT.PROT OUT	8

CN204
8P
WHT
:S-MICRO
②

115V	1
160V	2
NC	3
GNĐ	4
GNĐ	5
NC	6
135V	7
100V	8

CN263
9P
YEL-L
:S-MICRO
③

GNĐ	1
ĐQP.B (RET)	2
MG.VB (OUT)	3
ĐQP.B (OUT)	4
MG.VB (RET)	5
AQP.B (RET)	6
MG.HB (OUT)	7
AQP.B (OUT)	8
MG.HB (RET)	9

CN264
9P
WHT-L
:S-MICRO
④

GNĐ	1
ĐQP.G (RET)	2
MG.VG (OUT)	3
ĐQP.G (OUT)	4
MG.VG (RET)	5
AQP.G (RET)	6
MG.HG (OUT)	7
AQP.G (OUT)	8
MG.HG (RET)	9

CN265
9P
REĐ-L
:S-MICRO
⑤

GNĐ	1
ĐQP.R (RET)	2
MG.VR (OUT)	3
ĐQP.R (OUT)	4
MG.VR (RET)	5
AQP.R (RET)	6
MG.HR (OUT)	7
AQP.R (OUT)	8
MG.HR (RET)	9

CN271
7P
REĐ
:S-MICRO
⑥

135V	1
100V	2
NC	3
+15V	4
-15V	5
NC	6
-180V	7

CN272
7P
WHT
:S-MICRO
⑦

135V	1
100V	2
NC	3
+15V	4
-15V	5
NC	6
-180V	7

CN273
7P
YEL
:S-MICRO
⑧

100V	1
105V	2
NC	3
+15V	4
-15V	5
NC	6
-180V	7

CN281
6P
REĐ
:S-MICRO
⑨

IKSW	1
IKĐET	2
CRT.PROT	3
ABL.IK (R)	4
ABG.IK (R)	5
GNĐ	6

CN282
6P
WHT
:S-MICRO
⑩

IKSW	1
IKĐET	2
CRT.PROT	3
ABL.IK (G)	4
ABG.IK (G)	5
GNĐ	6

CN283
6P
YEL
:S-MICRO
⑪

IKSW	1
IKĐET	2
CRT.PROT	3
ABG.IK (B)	4
ABG.IK (B)	5
GNĐ	6

TO L BOARD
CN105
CN605
5P
B TO B

115V (HV)	1
115V	2
50V	3
15V	4
SUB5V	5

CN202
5P
WHT
:S-MICRO
⑫

HEATER+	1
HEATER-	2
GNĐ	3
GNĐ	4
GNĐ	5

CN201
5P
REĐ
:S-MICRO
⑬

HEATER+	1
HEATER-	2
GNĐ	3
GNĐ	4
GNĐ	5

CN203
5P
YEL
:S-MICRO
⑭

HEATER+	1
HEATER-	2
GNĐ	3
GNĐ	4
GNĐ	5

CN251
4P
REĐ
:S-MICRO
⑮

H.SUB.RRET	1
V.SUB.RRET	2
V.SUB.ROUT	3
H.SUB.ROOT	4

CN252
4P
WHT
:S-MICRO
⑯

H.SUB.GRET	1
V.SUB.GRET	2
V.SUB.GOUT	3
H.SUB.GOUT	4

CN253
4P
YEL
:S-MICRO
⑰

H.SUB.BRET	1
V.SUB.BRET	2
V.SUB.BOUT	3
H.SUB.BOUT	4

CN601
4P
WHT
:S-MICRO
⑱

SUB 5V	4
GNĐ	3
V.INV	2
POLE PROT	1

CN221
4P
BLK
:S-MICRO
⑲

VR-RET	1
HR-RET	2
2-POLE-HR	3
2-POLE-VR	4

CN222
4P
WHT
:S-MICRO
⑳

VG-RET	1
HG-RET	2
2-POLE-HG	3
2-POLE-VG	4

CN223
4P
BLK
:S-MICRO
㉑

VB-RET	1
HB-RET	2
2-POLE-HB	3
2-POLE-VB	4

CN213
3P
YEL
:S-MICRO
㉒

V.ĐY.R-	1
	2
V.ĐY.R+	3

CN212
3P
WHT
:S-MICRO
㉓

V.ĐY.G-	1
	2
V.ĐT.G+	3

CN211
3P
REĐ
:S-MICRO
㉔

V.ĐY.B-	1
	2
V.ĐY.B+	3

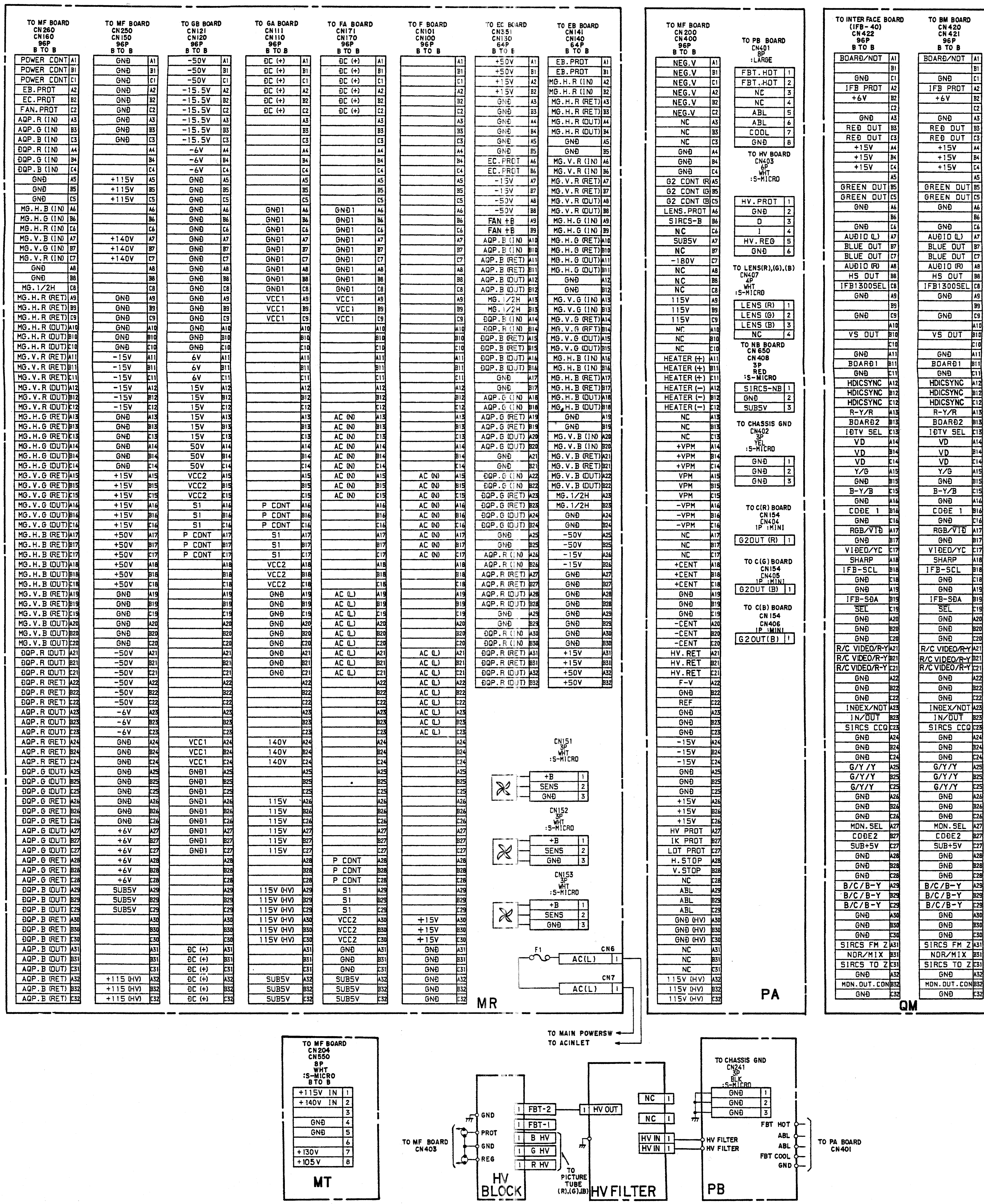
MF

① TO L BOARD CN107 (CN607)
② TO MT BOARD CN 550 (CN204)
③ TO QP/MG(B) (CN263)
④ TO QP/MG(G) (CN264)
⑤ TO QP/MG(R) (CN265)
⑥ TO C (R) BOARD CN157 (CN271)
⑦ TO C (G) BOARD CN157 (CN272)
⑧ TO C (B) BOARD CN157 (CN273)
⑨ TO C (R) BOARD CN158 (CN281)
⑩ TO C (G) BOARD CN158 (CN282)
⑪ TO C (B) BOARD CN158 (CN283)
⑫ TO C (R) BOARD CN156 (CN202)
⑬ TO C(G) BOARD CN156 (CN201)
⑭ TO C (B) BOARD CN156 (CN203)
⑮ TO SUB DY ASSY(R)
⑯ TO SUB DY ASSY(G) (CN252)
⑰ TO SUB DY ASSY(B) (CN253)
⑱ TO DB BOARD CN701 (CN601)

FRAME(   )

⑲ TO NECK ASSY (R) (CN221)
⑳ TO NECK ASSY (G) (CN222)
㉑ TO NECK ASSY (B) (CN223)
⑲ TO DY ASSY (B) (CN213)
⑳ TO DY ASSY (G) (CN212)
㉑ TO DY ASSY (R) (CN211)

• FRAME SCHEMATIC DIAGRAM (4)


TO MF BOARD CN260 CN160 96P B TO B
TO MF BOARD CN250 CN150 96P B TO B
TO GB BOARD CN121 CN120 96P B TO B
TO GA BOARD CN111 CN110 96P B TO B
TO FA BOARD CN171 CN170 96P B TO B
TO F BOARD CN101 CN100 96P B TO B
TO EC BOARD CN351 CN130 64P B TO B
TO EB BOARD CN141 CN140 64P B TO B
CN151 3P WHT :S-MICRO
+B
SENS
GND
CN152 3P WHT :S-MICRO
CN153 3P WHT :S-MICRO
F1
CN6
AC(L)
CN7
AC(L)
MR
TO MF BOARD CN200 CN400 96P B TO B
TO PB BOARD CN401 8P :LARGE
FBT.HOT
NC
ABL
COOL
GND
TO HV BOARD CN403 6P WHT :S-MICRO
HV.PROT
HV.REG
TO LENS(R),(G),(B) CN407 4P WHT :S-MICRO
LENS (R)
LENS (G)
LENS (B)
TO NB BOARD CN650 CN408 3P RED :S-MICRO
SIRCS-NB
SUB5V
TO CHASSIS GND CN402 3P YEL :S-MICRO
TO C(R) BOARD CN154 CN404 1P :MINI
G2OUT (R)
TO C(G) BOARD CN154 CN405 1P :MINI
G2OUT (B)
TO C(B) BOARD CN154 CN406 1P :MINI
G2OUT(B)
PA
TO INTER FACE BOARD (IFB-40) CN422 96P B TO B
TO BM BOARD CN420 CN421 96P B TO B
QM
TO MAIN POWERSW
TO ACINLET
TO MF BOARD CN204 CN550 8P WHT :S-MICRO B TO B
+115V IN
+140V IN
+130V
+105V
MT
TO MF BOARD CN403
GND
PROT
REG
FBT-2
FBT-1
B HV
G HV
R HV
HV OUT
TO PICTURE TUBE (R),(G),(B)
HV BLOCK
NC
HV IN
HV FILTER
TO CHASSIS GND CN241 3P BLK :S-MICRO
FBT HOT
ABL
FBT COOL
HV FILTER
TO PA BOARD CN401
PB

FACE BOARD
- 40)
422
6P
D B

/NOT	A1
	B1
D	C1
PROT	A2
V	B2
	C2
ND	A3
OUT	B3
OUT	C3
5V	A4
5V	B4
5V	C4
	A5
N OUT	B5
N OUT	C5
D	A6
	B6
D	C6
O (L)	A7
OUT	B7
OUT	C7
O (R)	A8
OUT	B8
OOSEL	C8
D	A9
	B9
D	C9
.	A10
OUT	B10
	C10
D	A11
RD1	B11
D	C11
SYNC	A12
SYNC	B12
SYNC	C12
/R	A13
RD2	B13
SEL	C13
D	A14
D	B14
D	C14
/G	A15
D	B15
/B	C15
D	A16
E 1	B16
D	C16
/VID	A17
D	B17
D/YC	C17
RP	A18
SCL	B18
D	C18
D	A19
SDA	B19
L	C19
D	A20
D	B20
D	C20
EO/R-Y	A21
EO/R-Y	B21
EO/R-Y	C21
D	A22
D	B22
D	C22
X/NOT	A23
OUT	B23
S CCQ	C23
D	A24
D	B24
D	C24
/Y	A25
/Y	B25
/Y	C25
D	A26
D	B26
D	C26
.SEL	A27
DE2	B27
+5V	C27
D	A28
D	B28
D	C28
B-Y	A29
B-Y	B29
B-Y	C29
D	A30
D	B30
D	C30
FM Z	A31
/MIX	B31
TO Z	C31
D	A32
UT.CON	B32
D	C32

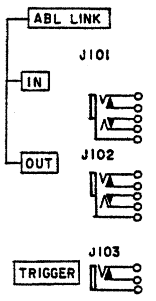
TO BM BOARD
CN420
CN421
96P
B TO B

BOARD/NOT	A1
	B1
GND	C1
IFB PROT	A2
+6V	B2
	C2
GND	A3
RED OUT	B3
RED OUT	C3
+15V	A4
+15V	B4
+15V	C4
	A5
GREEN OUT	B5
GREEN OUT	C5
GND	A6
	B6
GND	C6
AUDIO (L)	A7
BLUE OUT	B7
BLUE OUT	C7
AUDIO (R)	A8
HS OUT	B8
IFB1300SEL	C8
GND	A9
	B9
GND	C9
	A10
VS OUT	B10
	C10
GND	A11
BOARD1	B11
GND	C11
HDICSYNC	A12
HDICSYNC	B12
HDICSYNC	C12
R-Y/R	A13
BOARD2	B13
IDTV SEL	C13
VD	A14
VD	B14
VD	C14
Y/G	A15
GND	B15
B-Y/B	C15
GND	A16
CODE 1	B16
GND	C16
RGB/VID	A17
GND	B17
VIDEO/YC	C17
SHARP	A18
IFB-SCL	B18
GND	C18
GND	A19
IFB-SDA	B19
SEL	C19
GND	A20
GND	B20
GND	C20
R/C VIDEO/R-Y	A21
R/C VIDEO/R-Y	B21
R/C VIDEO/R-Y	C21
GND	A22
GND	B22
GND	C22
INDEX/NOT	A23
IN/OUT	B23
SIRCS CCQ	C23
GND	A24
GND	B24
GND	C24
G/Y/Y	A25
G/Y/Y	B25
G/Y/Y	C25
GND	A26
GND	B26
GND	C26
MON.SEL	A27
CODE2	B27
SUB+5V	C27
GND	A28
GND	B28
GND	C28
B/C/B-Y	A29
B/C/B-Y	B29
B/C/B-Y	C29
GND	A30
GND	B30
GND	C30
SIRCS FM Z	A31
NOR/MIX	B31
SIRCS TO Z	C31
GND	A32
MON.OUT.CON	B32
GND	C32

QM

TO BM BOARD
CN440
CN441
96P
B TO B

GND	A1
GND	B1
GND	C1
OSD-R	A2
GND	B2
	C2
OSD-G	A3
GND	B3
	C3
OSD-B	A4
GND	B4
	C4
OSD-V	A5
GND	B5
	C5
TEST IRE	A6
GND	B6
BLKG	C6
	A7
ABL NET	B7
	C7
GND	A8
GND	B8
GND	C8
HS-OUT	A9
SCP	B9
HS (B-A)	C9
GND	A10
GND	B10
GND	C10
VS-OUT	A11
V-SYNC	B11
VS (B-A)	C11
GND	A12
	B12
GND	C12
HD	A13
GND	B13
GND	C13
GND	A14
GND	B14
VD	C14
GND	A15
GND	B15
GND	C15
	A16
RES2M	B16
CLR	C16
CEM2	A17
INT2M	B17
BUSY2M	C17
A0	A18
A1	B18
A2	C18
A3	A19
A4	B19
A5	C19
A6	A20
A7	B20
A8	C20
A9	A21
A10	B21
A11	C21
A12	A22
A13	B22
A14	C22
A15	A23
D0	B23
D1	C23
D2	A24
D3	B24
D4	C24
D5	A25
D6	B25
D7	C25
RD	A26
WR	B26
CLAMP	C26
GND	A27
GND	B27
GND	C27
SUB+5V	A28
SUB+5V	B28
SUB+5V	C28
+6V	A29
+6V	B29
+6V	C29
GND	A30
GND	B30
GND	C30
-6V	A31
-6V	B31
+15V	C31
GND	A32
GND	B32
GND	C32



YA

TO BM BOARD
CN490
CN491
128P
B TO B

GND	A1
GND	B1
GND	C1
GND	D1
GND	A2
ABG R	B2
ABG G	C2
ABG B	D2
	A3
	B3
	C3
	D3
GND	A4
G2 R	B4
G2 G	C4
G2 B	D4
	A5
	B5
	C5
	D5
GND	A6
GND	B6
GND	C6
GND	D6
SCL (I2C)	A7
D-VID/RGB	B7
SEL-A	C7
D-SDA	D7
SDA (I2C)	A8
H-LIN SW1	B8
SEL-B	C8
D-CLK	D8
GND	A9
H-LIN SW2	B9
SEL-C	C9
D-LD	D9
	A10
	B10
FH LIMIT	C10
OVER.C	D10
H/C IN	A11
GND	B11
M.DATA1	C11
M.DATA2	D11
GND	A12
SONG IN	B12
M.DATA3	C12
M.DATA4	D12
VS IN	A13
GND	B13
M.DATA5	C13
BOARD2	D13
GND	A14
	B14
IFB1300SEL	C14
BOARD/NOT	D14
CLAMP	A15
	B15
RGB/VIDEO	C15
IN/OUT	D15
GND	A16
	B16
VIDEO/YC	C16
SEL	D16
HS-OUT	A17
	B17
CODE1	C17
CODE2	D17
GND	A18
VSYNC	B18
BOARD1	C18
	D18
HS (B->A)	A19
GND	B19
HD	C19
GND	D19
GND	A20
VS (B->A)	B20
GND	C20
VD	D20
GND	A21
GND	B21
GND	C21
GND	D21
	A22
	B22
P.PROT1	C22
P.PROT2	D22
P.PROT3	A23
P.PROT4	B23
IFB PROT	C23
LENS PROT	D23
POLE PROT	A24
	B24
	C24
P.CONT	D24
B PROT	A25
DC PROT	B25
EB PROT	C25
EC PROT	D25
HV PROT	A26
LOT PROT	B26
H STOP	C26
V STOP	D26
ΣIK PROT	A27
IK PROT	B27
CRT PROT	C27
FAN PROT	D27
H INV	A28
V INV	B28
	C28
	D28
GND	A29
GND	B29
GND	C29
GND	D29
BUSY 2M	A30
	B30
	C30
BUSY 3M	D30
INT 2M	A31
RES 2M	B31
RES 3M	C31
INT 3M	D31
CE M2	A32
CLR	B32
CLR	C32
CE M3	D32

TO BM BOARD
CN450
CN451
48P
B TO B

A0	A1
A1	B1
A2	C1
A3	A2
A4	B2
A5	C2
A6	A3
A7	B3
A8	C3
A9	A4
A10	B4
A11	C4
A12	A5
A13	B5
A14	C5
A15	A6
D0	B6
D1	C6
D2	A7
D3	B7
D4	C7
D5	A8
D6	B8
D7	C8
RD	A9
WR	B9
AS	C9
GND	A10
GND	B10
GND	C10
	A11
GND	B11
	C11
GND	A12
SIRCS NB	B12
NC	C12
SIRCS CCQ	A13
GND	B13
GND	C13
SUB+5V	A14
SUB+5V	B14
SUB+5V	C14
+6V	A15
+6V	B15
+15V	C15
GND	A16
GND	B16
GND	C16

TO NB BOARD
CN650

CN454
4P
WHT
:S-MICRO

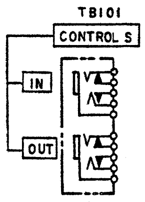
SIRCS RC	1
GND	2
SUB+5V	3
RCON*	4

CN455
13P
WHT
:S-MICRO

+6V	1
SIRCS NA	2
SUB+5V	3
GND	4
D0	5
D1	6
D2	7
D3	8
D4	9
D5	10
D6	11
D7	12
LED CE	13

TO NA BOARD
CN750

TB101



YB

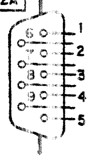
TO BM BOARD
CN460
CN461
96P
B TO B

GND	A1
GND	B1
GND	C1
IFB-SCL	A2
	B2
	C2
IFB-SDA	A3
GND	B3
	C3
	A4
	B4
	C4
M.DATA1	A5
	B5
A.DATA1	C5
M.DATA2	A6
	B6
A.DATA2	C6
M.DATA3	A7
	B7
A.DATA3	C7
M.DATA4	A8
	B8
A.DATA4	C8
M.DATA5	A9
	B9
A.DATA5	C9
	A10
	B10
	C10
	A11
	B11
	C11
	A12
	B12
	C12
HD	A13
GND	B13
GND	C13
GND	A14
GND	B14
VD	C14
GND	A15
GND	B15
GND	C15
CLR	A16
RES 3M	B16
	C16
CE M3	A17
INT 3M	B17
BUSY 3M	C17
A0	A18
A1	B18
A2	C18
A3	A19
A4	B19
A5	C19
A6	A20
A7	B20
A8	C20
A9	A21
A10	B21
A11	C21
A12	A22
A13	B22
A14	C22
A15	A23
D0	B23
D1	C23
D2	A24
D3	B24
D4	C24
D5	A25
D6	B25
D7	C25
RD	A26
WR	B26
AS	C26
GND	A27
GND	B27
GND	C27
SUB+5V	A28
SUB+5V	B28
SUB+5V	C28
+6V	A29
+6V	B29
+6V	C29
GND	A30
GND	B30
GND	C30
-6V	A31
-6V	B31
+15V	C31
GND	A32
GND	B32
GND	C32

TO YF BOARD
CN465
CN463
9P
WHT
:S-MICRO

INDEX0	1
INDEX1	2
INDEX2	3
INDEX3	4
INDEX4	5
INDEX5	6
INDEX6	7
INDEX7	8
GND	9

TB1001
REMOTE
RS-422A



YC

CN465
9P
WHT
:S-MICRO

INDEX0	1
INDEX1	2
INDEX2	3
INDEX3	4
INDEX4	5
INDEX5	6
INDEX6	7
INDEX7	8
GND	9

TO YC BOARD
CN463

YF

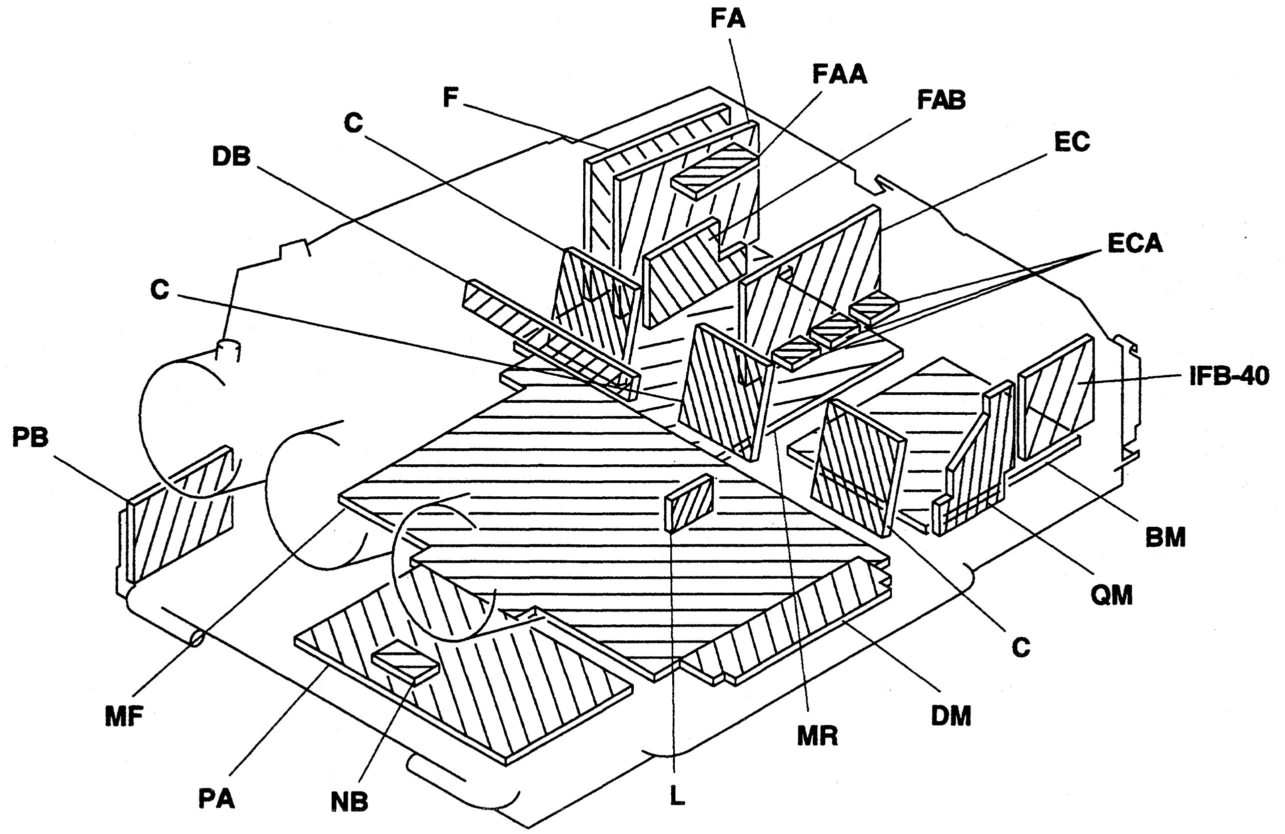
DD

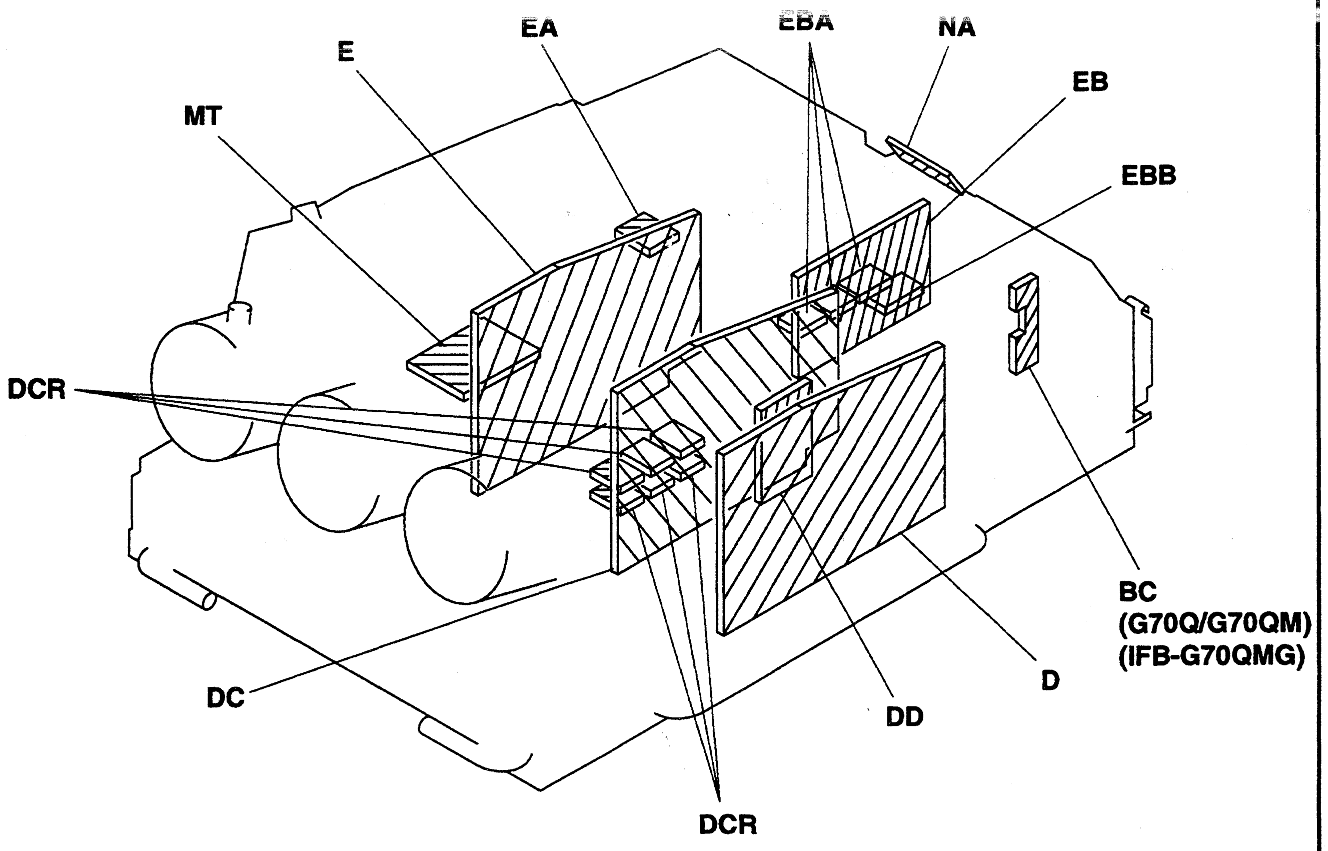
CN1
40P

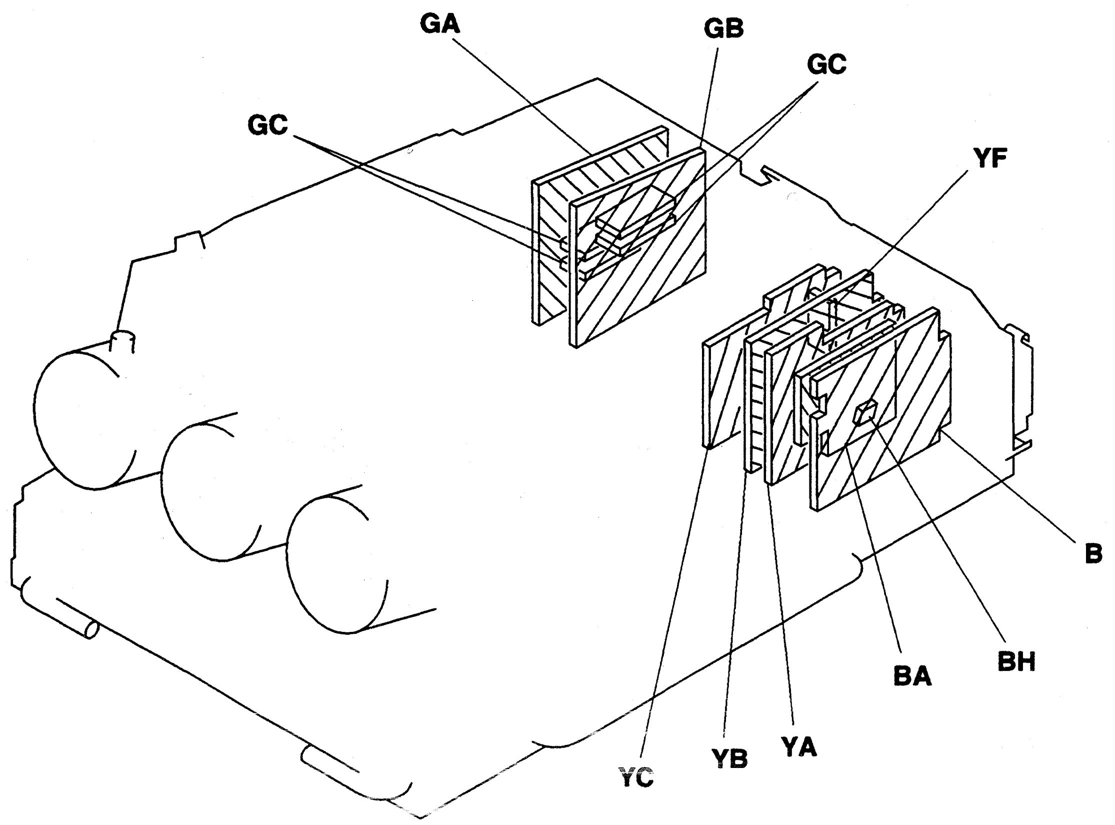
A1	+5V
B1	+5V
A2	+5V
B2	+5V
A3	- 5V
B3	- 5V
A4	- 5V
B4	- 5V
A5	HSXVP IN
B5	
A6	H BIAS
B6	AD HD
A7	GND
B7	GND
A8	H SAW
B8	H PARA OUT
A9	GND
B9	GND
A10	H SAW OUT
B10	
A11	GND
B11	GND
A12	HSXVP OUT
B12	V SIZE
A13	GND
B13	GND
A14	SUB BOW OUT
B14	GND
A15	GND
B15	GND
A16	SUB BOW IN
B16	GND
A17	GND
B17	GND
A18	V. PROT
B18	GND
A19	GND
B19	GND
A20	12V (V)
B20	GND

TO D BOARD
CN361

4-3. CIRCUIT BOARDS LOCATION


FA
FAA
FAB
F
C
EC
DB
ECA
C
IFB-40
PB
BM
QM
C
MF
DM
MR
PA
NB
L


EA
EBA
NA
E
EB
MT
EBB
DCR
BC
(G70Q/G70QM)
(IFB-G70QMG)
DC
D
DD
DCR


GA
GB
GC
GC
YF
B
BA
BH
YC
YB
YA

4-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in µF unless otherwise noted.
  50WV or less are not indicated except for electrolytics.
  pF: µµF
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

- Chip resister are 1/10W unless otherwise noted.
- All resistors are in ohms.
- ▭ : nonfiammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ▭ : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- METAL FILM (: RN) resister in 0.5%, 1/4W unless otherwise specified.
- The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment until the specified value is achieved. (Refer to ⊠ RV1, ⊠ RV2 on page 3-20.)

Part replaced (◪)	Adjustment (⊠)
IC1, D1, D2, C3, R1, R2, R3, R4, R5, R6, R7, R185, R194 .... PA board	RV1 (HV HOLD-DOWN)
IC2, IC3, IC4, IC7, IC9, IC10, IC12, IC13, D12, R53, R54, R57, R59, R60, R61, R68, R69, R70, R72, R76, R77, R78, X1 .... PA board	RV2 (HIGH VOLTAGE REGULATOR)

- When the power supply block has been replaced, check that the +B MAX voltage is within the specification..
- All voltages are in V.
- Voltage variations may be noted due to normal production tolerance.
- Reading are taken with Composite Video and Component (R.G.B. HD, VD) color-bar signal input from color-bar pattern generator.
- Voltage are dc with respect to ground unless otherwise noted.
- no mark : Composite Video signal and comon
  (　　) : Component (R.G.B. HD, VD) signal
- ▭ : B+ line.
- ▭ : B– line.
- ▶ : signal path.
- Circled numbers are waveforms reference.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

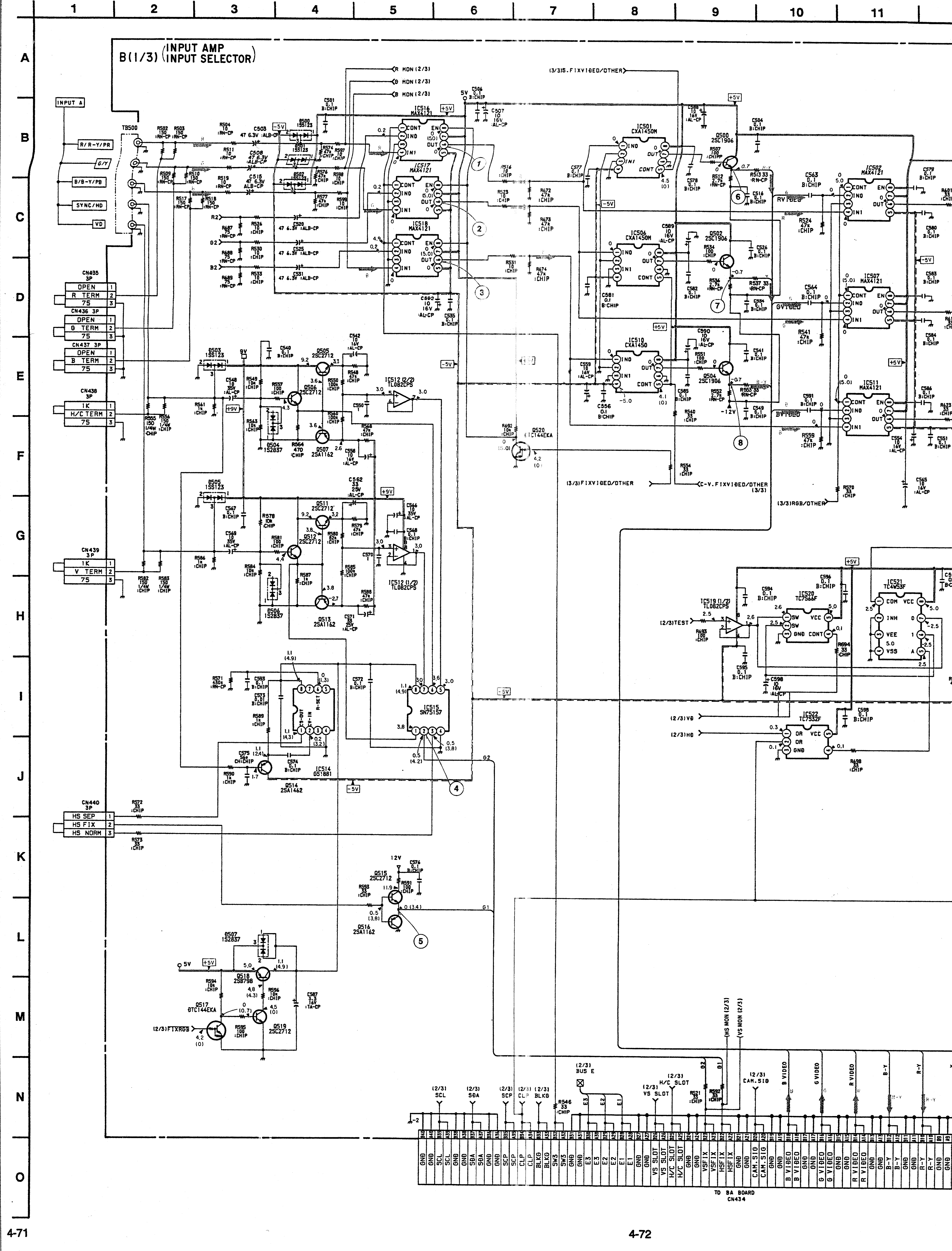
Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-69

• B (1/3) (INPUT AMP, INPUT SELECT) DIAGRAM

- Refer to page 4-80 for Printed Wiring Board
- Refer to page 4-83 for Waveforms
- Refer to page 4-84 for Function of Semiconductor
- Refer to page 4-86 for IC Block Diagram



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J
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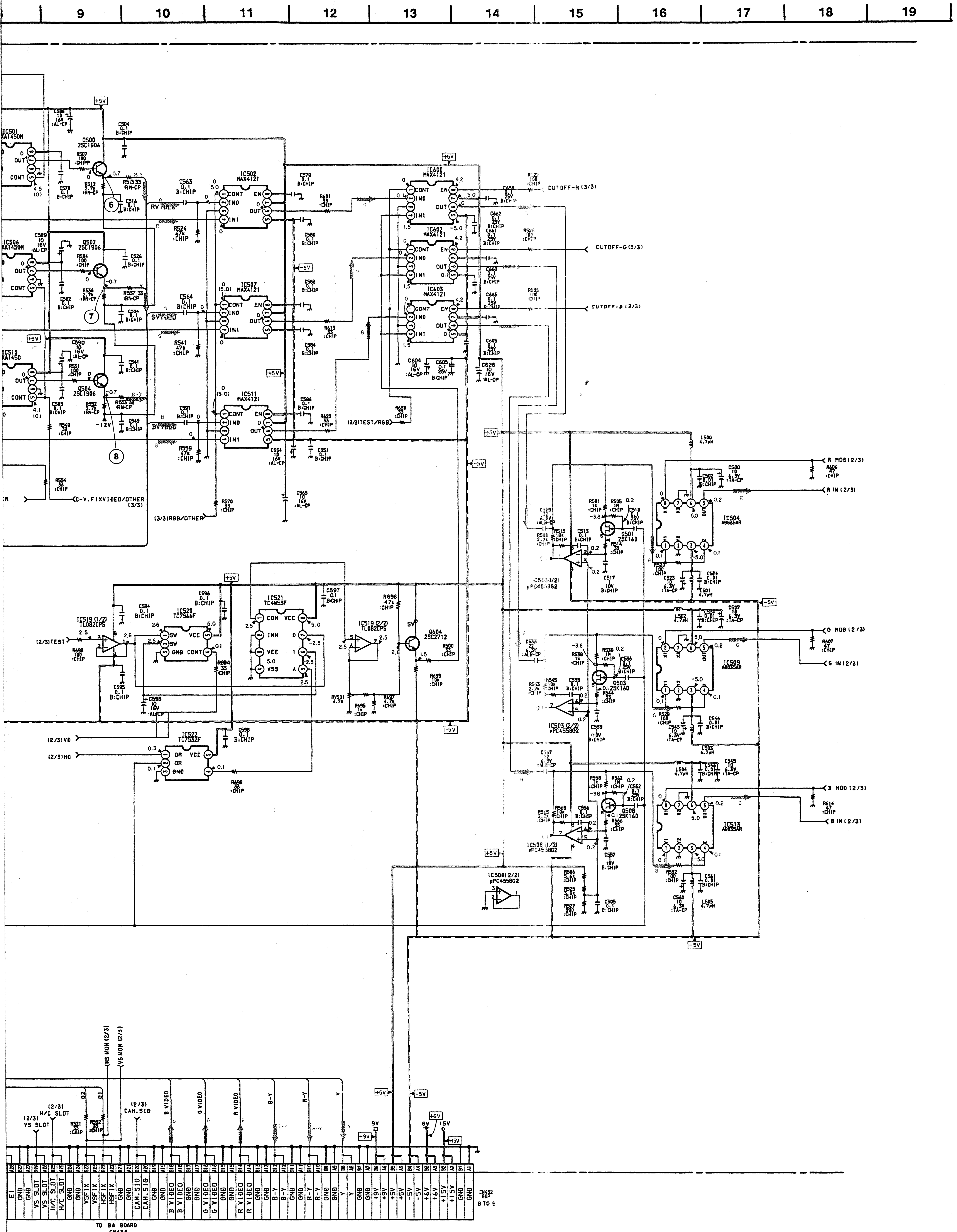
L
M
N
O
B(1/3) (INPUT AMP / INPUT SELECTOR)
INPUT A
TB500
R/R-Y/PR
G/Y
B/B-Y/PB
SYNC/HD
VD
CN435 3P
OPEN
R TERM
75
CN436 3P
G TERM
CN437 3P
B TERM
CN438 3P
1K
H/C TERM
CN439 3P
V TERM
CN440 3P
HS SEP
HS FIX
HS NORM
R MON (2/3)
G MON (2/3)
B MON (2/3)
(3/3)S.FIXVIDEO/OTHER
IC516 MAX4121
IC517 MAX4121
IC518 MAX4121
IC501 CXA1450M
IC506 CXA1450M
IC510 CXA1450
IC502 MAX4121
IC507 MAX4121
IC511 MAX4121
Q500 2SC1906
Q502 2SC1906
Q504 2SC1906
D500 1SS123
D501 1SS123
D502 1SS123
D503 1SS123
D505 1SS123
Q505 2SC2712
Q506 2SC2712
Q507 2SA1162
D504 1S2837
IC512 (2/2) TL082CPS
Q511 2SC2712
Q512 2SC2712
Q513 2SA1162
D506 1S2837
IC512 (1/2) TL082CPS
Q520 DTC144EKA
(3/3)FIXVIDEO/OTHER
C-V.FIXVIDEO/OTHER (3/3)
(3/3)RGB/OTHER
IC514 GS1881
IC515 SN75157
Q514 2SA1462
IC519 (1/2) TL082CPS
IC520 TC7S66F
IC521 TC4W53F
IC522 TC7S32F
(2/3)TEST
(2/3)VD
(2/3)HD
Q515 2SC2712
Q516 2SA1162
D507 1S2837
Q518 2SB798
Q517 DTC144EKA
Q519 2SC2712
(2/3)FIXRGB
RV IDEO
GVIDEO
BVIDEO
HS MON (2/3)
VS MON (2/3)
(2/3) BUS E
(2/3) SCL
(2/3) SDA
(2/3) SCP
(2/3) CLP
(2/3) BLKG
(2/3) H/C SLOT
(2/3) VS SLOT
(2/3) CAM.SIG
B VIDEO
G VIDEO
R VIDEO
B-Y
R-Y
TO BA BOARD CN434
GND
SCL
SDA
SCP
CLP
BLKG
SW3
E3
E2
E1
VS SLOT
H/C SLOT
VSFIX
HSFIX
CAM.SIG
+5V
-5V
+9V
-12V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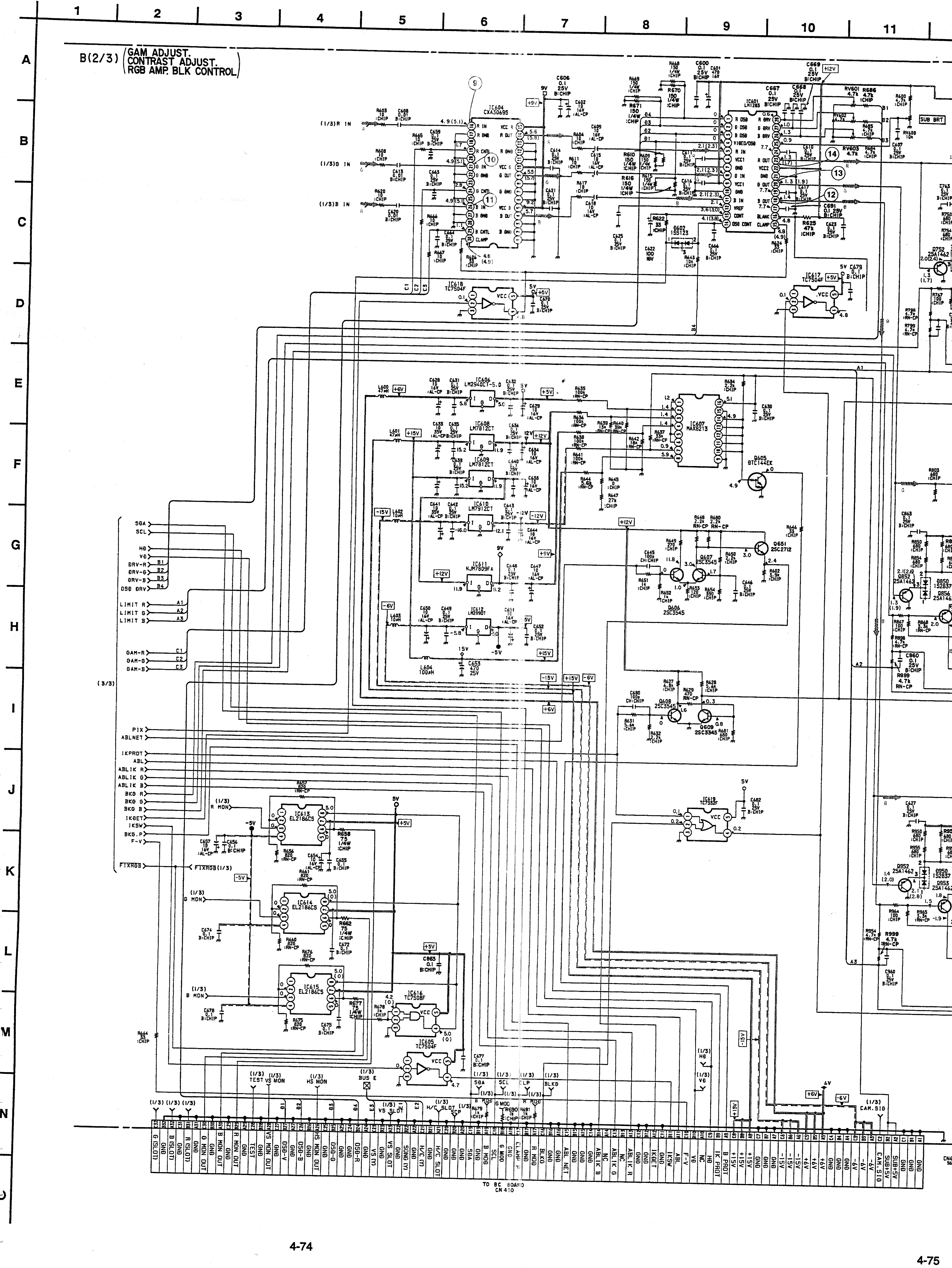
IC501 KA1450N
IC506 KA1450N
IC510 KA1450
Q500 2SC1906
Q502 2SC1906
Q504 2SC1906
IC502 MAX4121
IC507 MAX4121
IC511 MAX4121
IC600 MAX4121
IC602 MAX4121
IC603 MAX4121
RVIDEO
GVIDEO
BVIDEO
CUTOFF-R (3/3)
CUTOFF-G (3/3)
CUTOFF-B (3/3)
C-V.FIXVIDEO/OTHER (3/3)
(3/3)RGB/OTHER
(3/3)TEST/RGB
IC519 (1/2) TL082CPS
IC519 (2/2) TL082CPS
IC520 TC7S66F
IC521 TC4W53F
IC522 TC7S32F
Q604 2SC2712
(2/3)TEST
(2/3)VD
(2/3)HD
IC504 AD835AR
IC509 AD835AR
IC513 AD835AR
Q501 2SK160
Q503 2SK160
Q508 2SK160
IC503 (1/2) µPC4558G2
IC503 (2/2) µPC4558G2
IC508 (1/2) µPC4558G2
IC508 (2/2) µPC4558G2
R MOD (2/3)
R IN (2/3)
G MOD (2/3)
G IN (2/3)
B MOD (2/3)
B IN (2/3)
+5V
-5V
+6V
+9V
+15V
HS MON (2/3)
VS MON (2/3)
(2/3) VS SLOT
(2/3) H/C SLOT
(2/3) CAM.SIG
B VIDEO
G VIDEO
R VIDEO
B-Y
R-Y
Y
E1
GND
VS SLOT
H/C SLOT
VSFIX
HSFIX
CAM.SIG
CN432 80P B TO B
TO BA BOARD CN434

Schematic Diagram

B (2/3) board ➡

- **B (2/3) (GAM ADJ, CONTRAST ADJ, RGB AMP, BLK CONTROL) DIAGRAM**
- Refer to page 4-80 for Printed Wiring Board
- Refer to page 4-83 for Waveforms
- Refer to page 4-84 for Function of Semiconductor
- Refer to page 4-86 for IC Block Diagram


B(2/3) (GAM ADJUST. CONTRAST ADJUST. RGB AMP. BLK CONTROL)
IC604 CXA3069S
IC601 LM1283
IC618 TC7S04F
IC617 TC7S04F
IC606 LM2940CT-5.0
IC607 MAX8213
IC608 LM7812CT
IC609 LM7812CT
IC610 LM7912CT
IC611 NJM7809FA
IC612 LM2990T
IC613 EL2186CS
IC614 EL2186CS
IC615 EL2186CS
IC616 TC7S08F
IC605 TC7S04F
IC619 TC7S32F
Q605 DTC144EK
Q651 2SC2712
Q607 2SC3545
Q606 2SC3545
Q608 2SC3545
Q609 2SC3345
Q752 2SA1462
Q852 2SA1462
Q850 1S2837
Q952 2SA1462
Q950 1S2837
D602 1SS123
SUB BRT
(1/3)R IN
(1/3)G IN
(1/3)B IN
SDA
SCL
HD
VD
DRV-R
DRV-G
DRV-B
OSD DRV
LIMIT R
LIMIT G
LIMIT B
GAM-R
GAM-G
GAM-B
(3/3)
PIX
ABLNET
IKPROT
ABL
ABLIK R
ABLIK G
ABLIK B
BKG R
BKG G
BKG B
IKDET
IKSW
BKG.P
F-V
FTXRGB
FTXRGB(1/3)
(1/3) R MON
(1/3) G MON
(1/3) B MON
(1/3) TEST
(1/3) VS MON
(1/3) HS MON
(1/3) BUS E
(1/3) SDA
(1/3) SCL
(1/3) CLP
(1/3) BLKG
(1/3) HD
(1/3) VD
(1/3) CAM.SIO
+5V
+6V
+9V
+12V
+15V
-5V
-6V
-12V
-15V
TO BC BOARD CN430
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A
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C
D
E
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G
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I
J
K
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M
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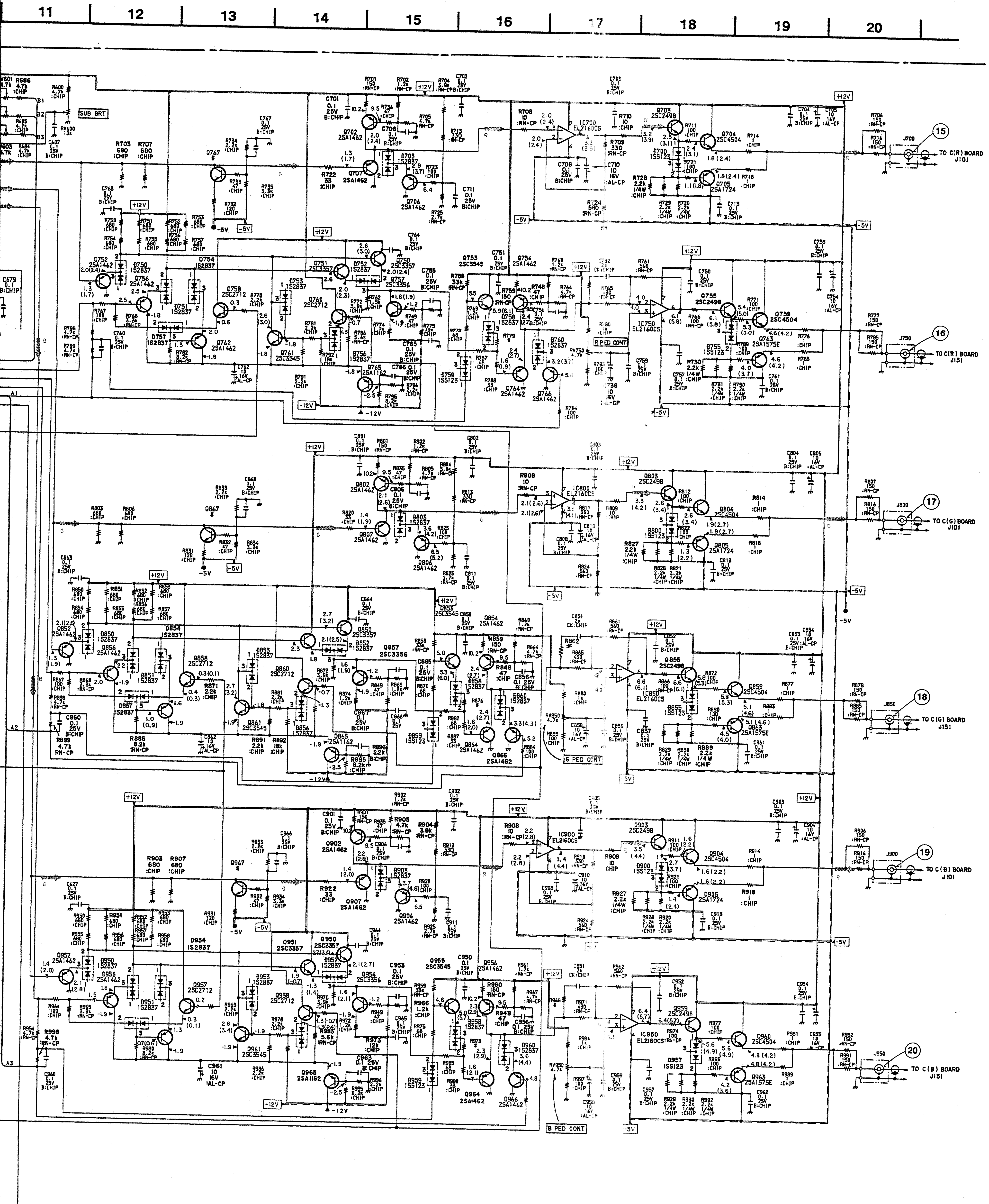
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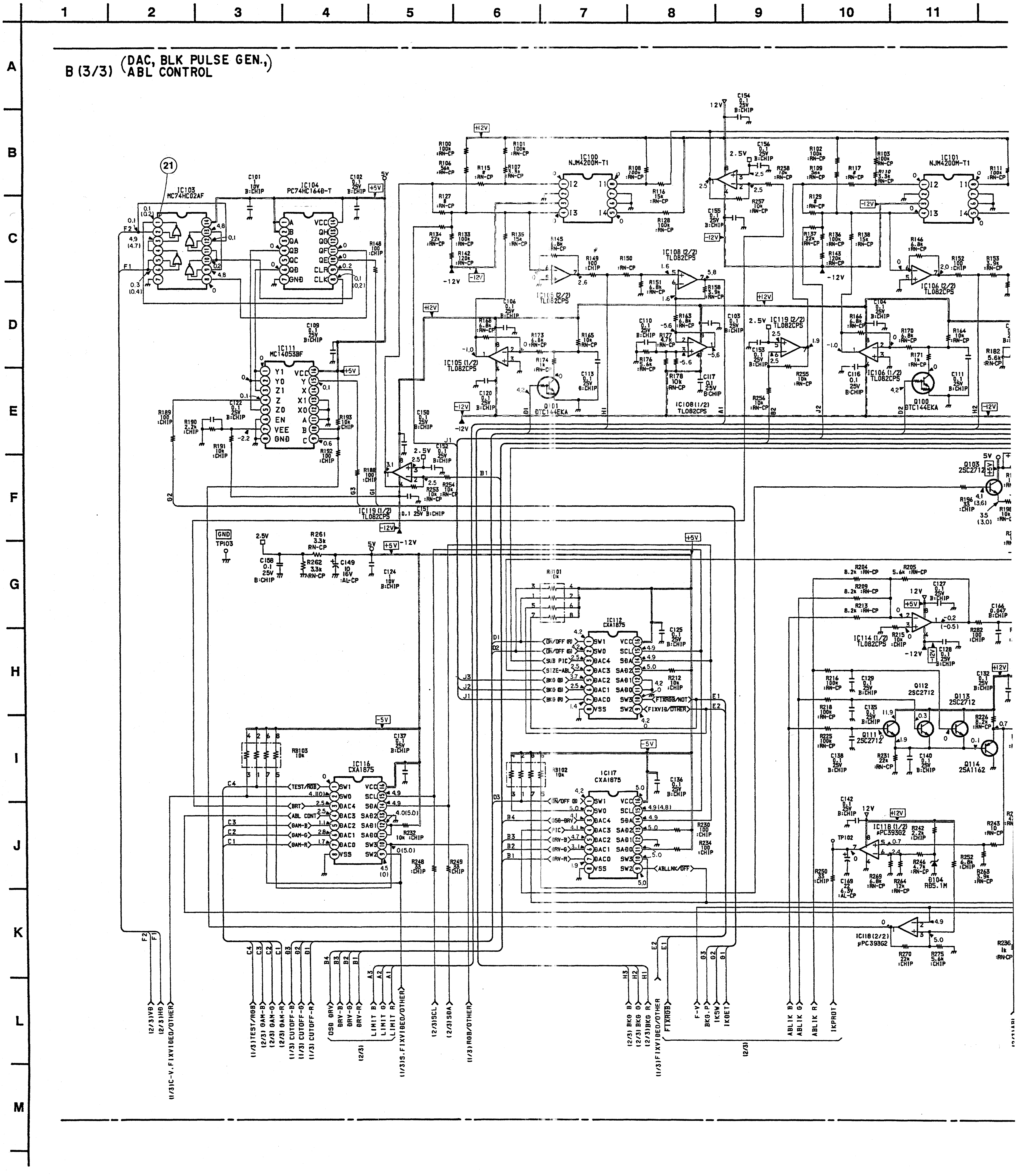
SUB BRT
IC700 EL2160CS
IC750 EL2160CS
IC800 EL2160CS
IC850 EL2160CS
IC900 EL2160CS
IC950 EL2160CS
R PED CONT
G PED CONT
B PED CONT
+12V
-5V
-12V
A1
A2
A3
15
TO C(R) BOARD J101
J700
16
TO C(R) BOARD J151
J750
17
TO C(G) BOARD J101
J800
18
TO C(G) BOARD J151
J850
19
TO C(B) BOARD J101
J900
20
TO C(B) BOARD J151
J950
(1/3) CAM.SIG
GND
-6V
-6V
CAM.SIG
SUB+5V
GND
GND
CN431 96P

- **B (3/3) (DAC, BLK PULSE GEN., ABL CONTROL) DIAGRAM**
- Refer to page 4-80 for Printed Wiring Board
- Refer to page 4-83 for Waveforms
- Refer to page 4-84 for Function of Semiconductor
- Refer to page 4-86 for IC Block Diagram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A
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G
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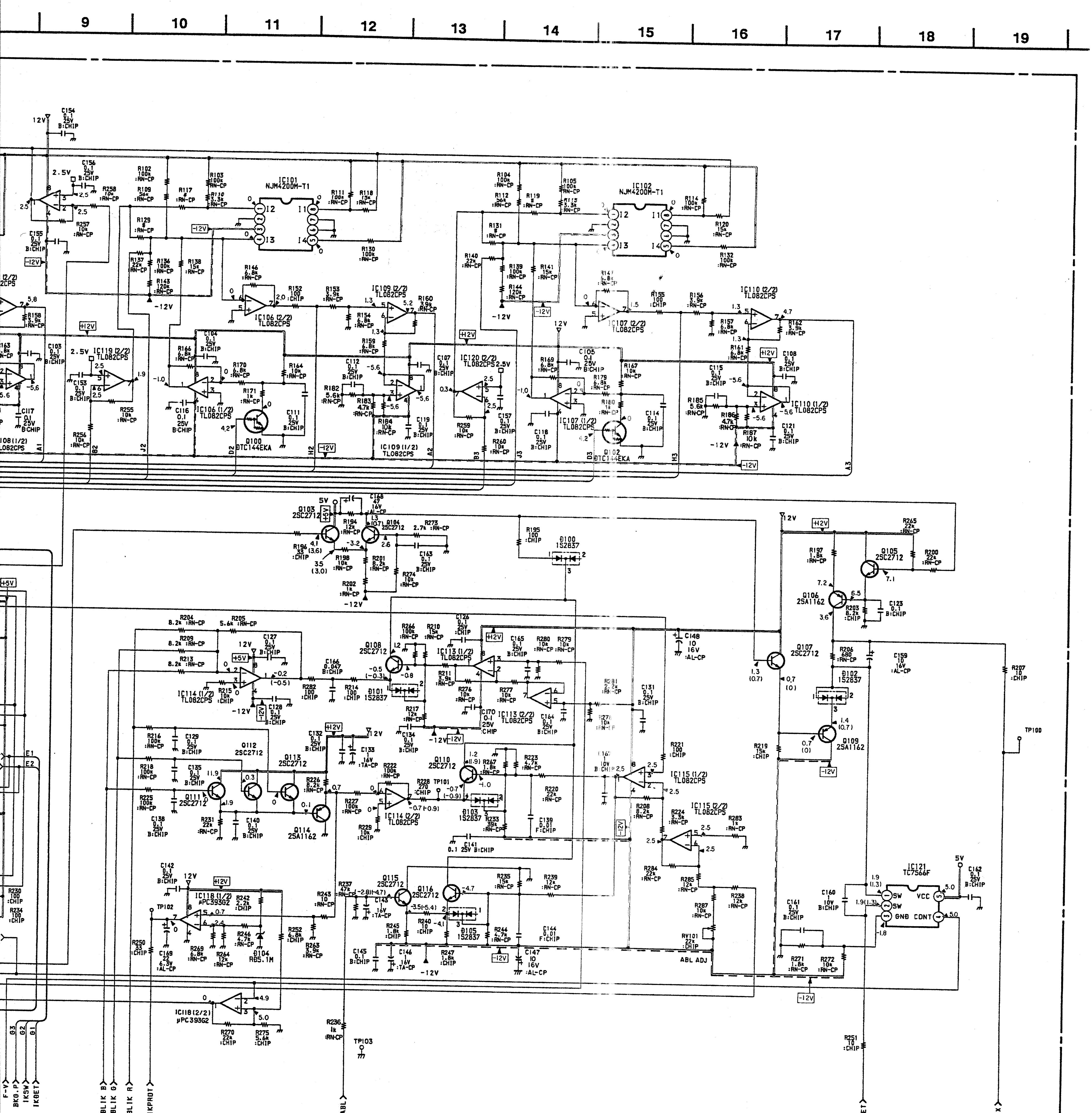
I
J
K
L
M
B (3/3) (DAC, BLK PULSE GEN., ABL CONTROL)
IC103 MC74HC02AF
IC104 PC74HC164B-T
IC111 MC14053BF
IC100 NJM4200M-T1
IC101 NJM4200M-T1
IC105 (1/2) TL082CPS
IC105 (2/2) TL082CPS
IC106 (1/2) TL082CPS
IC106 (2/2) TL082CPS
IC108 (1/2) TL082CPS
IC108 (2/2) TL082CPS
IC119 (1/2) TL082CPS
IC119 (2/2) TL082CPS
IC114 (1/2) TL082CPS
IC112 CXA1875
IC116 CXA1875
IC117 CXA1875
IC118 (1/2) μPC393G2
IC118 (2/2) μPC393G2
Q100 DTC144EKA
Q101 DTC144EKA
Q103 2SC2712
Q111 2SC2712
Q112 2SC2712
Q113 2SC2712
Q114 2SA1162
D104 RD5.1M
RB101 10k
RB102 10k
RB103 10k
TP102
TP103
GND
+12V
-12V
+5V
-5V
(2/3)VD
(2/3)HD
(1/3)C-V.FIXVIDEO/OTHER
(1/3)TEST/RGB
(2/3) GAM-B
(2/3) GAM-G
(2/3) GAM-R
(1/3) CUTOFF-B
(1/3) CUTOFF-G
(1/3) CUTOFF-R
OSD DRV
DRV-B
DRV-G
DRV-R
(2/3)
LIMIT B
LIMIT G
LIMIT R
(1/3)S.FIXVIDEO/OTHER
(2/3)SCL
(2/3)SDA
(1/3)RGB/OTHER
(2/3) BKG B
(2/3) BKG G
(2/3) BKG R
(1/3)FIXVIDEO/OTHER
FTXRGB
F-V
BKG.P
IKSW
IKSET
ABLIK B
ABLIK G
ABLIK R
IKPROT
TEST/RGB
BRT
ABL CONT
GAM-B
GAM-G
GAM-R
ON/OFF (R)
ON/OFF (G)
SUB PIC
SIZE-ABL
BKG (B)
BKG (G)
BKG (R)
FTXRGB/NOT
FIXVID/OTHER
ON/OFF (B)
OSD-DRV
PIC
DRV-G
DRV-R
ABLLNK/OFF
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
VSS
VCC
SCL
SDA
SAD2
SAD1
SAD0
SW3
SW2
Y1
Y0
Z1
Z0
EN
VEE
GND
X
X1
X0
A
B
C
Y
QA
QB
QC
QD
QE
QF
QG
QH
CLR
CLK
A1
A2
A3
B1
B2
B3
B4
C1
C2
C3
C4
D1
D2
D3
E1
E2
F1
F2
G1
G2
G3
H1
H2
H3
J1
J2
J3
21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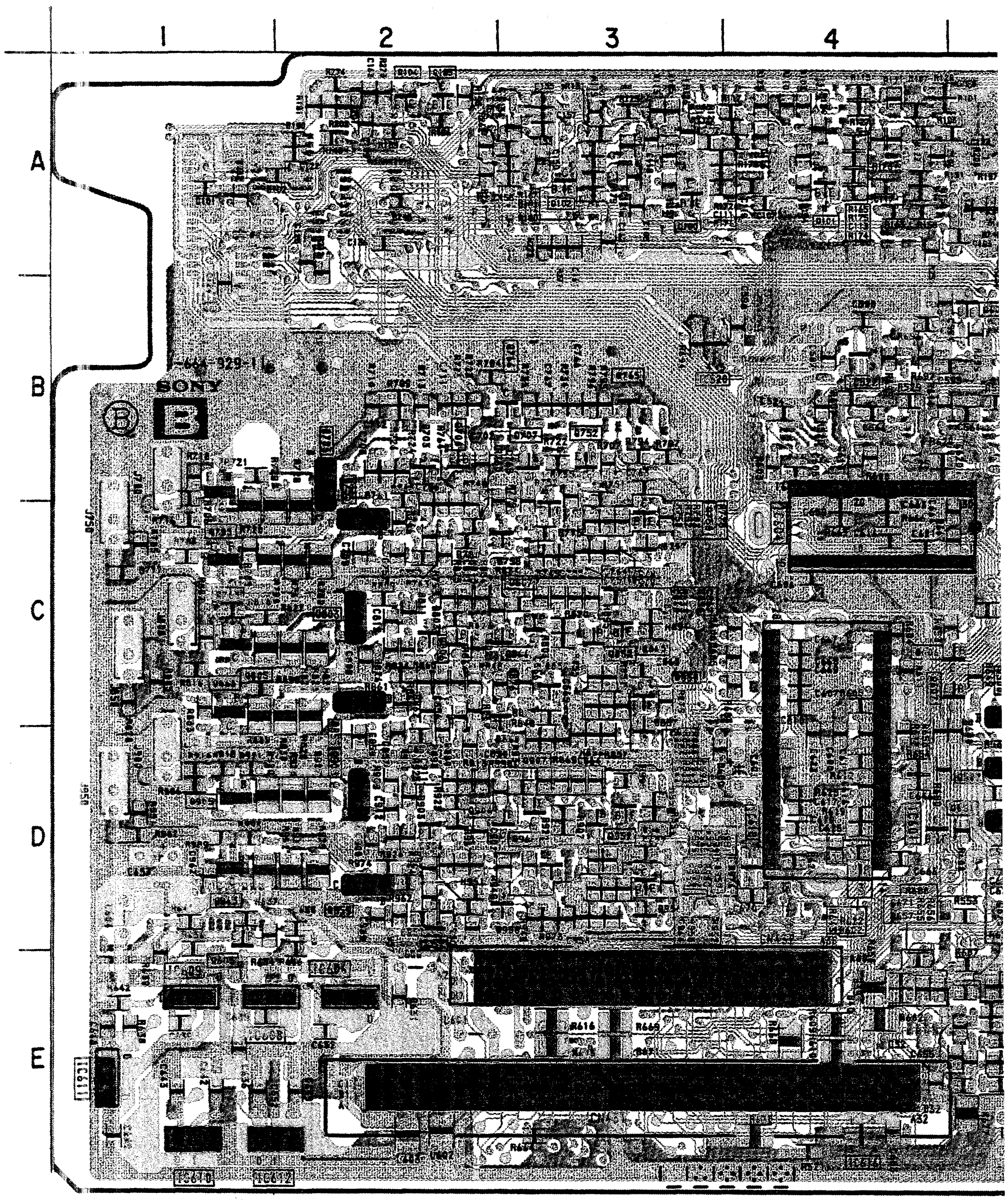
IC101 NJM4200M-T1
IC102 NJM4200M-T1
IC106 (2/2) TL082CPS
IC106 (1/2) TL082CPS
IC107 (2/2) TL082CPS
IC107 (1/2) TL082CPS
IC109 (2/2) TL082CPS
IC109 (1/2) TL082CPS
IC110 (2/2) TL082CPS
IC110 (1/2) TL082CPS
IC119 (2/2) TL082CPS
IC120 (2/2) TL082CPS
IC108 (1/2) TL082CPS
IC113 (1/2) TL082CPS
IC113 (2/2) TL082CPS
IC114 (1/2) TL082CPS
IC114 (2/2) TL082CPS
IC115 (1/2) TL082CPS
IC115 (2/2) TL082CPS
IC118 (1/2) µPC393G2
IC118 (2/2) µPC393G2
IC121 TC7S66F
Q100 DTC144EKA
Q102 DTC144EKA
Q103 2SC2712
Q104 2SC2712
Q105 2SC2712
Q106 2SA1162
Q107 2SC2712
Q108 2SC2712
Q109 2SA1162
Q110 2SC2712
Q111 2SC2712
Q112 2SC2712
Q113 2SC2712
Q114 2SA1162
Q115 2SC2712
Q116 2SC2712
D100 1SS237
D101 1SS237
D102 1SS237
D103 1SS237
D104 RD5.1M
D105 1SS237
RV101 22k :CHIP
ABL ADJ
TP100
TP101
TP102
TP103
12V
-12V
+12V
+5V
5V
F-V
BKG.P
IKSW
IKOE
ABLIK B
ABLIK G
ABLIK R
IKPROT
(2/3)
(2/3)ABL
(2/3)ABLNET
(2/3)PIX
A1
A2
A3
B2
B3
D2
D3
H2
H3
J2
J3
E1
E2
Q1
Q2
Q3
SW
VCC
GND
CONT

B BOARD
Semiconductors Location

DIODE	
D100	A-8
D101	A-8
D102	A-8
D103	A-5
D104	A-6
D105	A-8
D500	D-6
D501	D-5
D502	D-5
D503	D-6
D504	D-5
D505	E-5
D506	D-6
D507	E-5
D602	D-4
D700	B-11
D703	B-2
D750	B-10
D751	C-10
D752	C-3
D753	B-10
D754	C-10
D755	C-11
D756	B-10
D757	C-3
D758	C-2
D759	B-10
D760	B-10
D800	C-11
D803	C-2
D850	C-10
D851	D-10
D852	C-3
D853	C-10
D854	D-10
D855	C-11
D856	C-10
D857	C-3
D858	C-2
D859	C-10
D860	C-10
D900	D-11
D903	D-2
D950	D-10
D951	D-10
D952	D-3
D953	D-10
D954	D-10
D955	D-10
D956	D-3
D957	D-11
D958	D-3
D959	D-10
D960	D-10
IC	
IC100	A-9
IC101	A-9
IC102	A-10
IC103	A-12
IC104	A-11
IC105	A-8
IC106	A-9
IC107	A-10
IC108	A-8
IC109	A-9
IC110	A-10
IC111	A-11
IC112	A-11
IC113	A-8
IC114	A-8
IC115	A-8
IC116	A-12
IC117	A-11
IC118	A-7
IC119	A-10
IC120	A-10
IC121	A-10
IC501	C-7
IC502	C-7
IC503	B-7
IC504	B-9
IC506	C-7
IC507	C-7
IC508	B-8
IC509	B-9
IC510	C-8
IC511	C-8
IC512	D-8
IC513	B-8
IC514	E-7
IC515	E-7
IC516	C-7
IC517	C-8
IC518	C-8
IC519	B-8
IC520	B-3
IC521	B-9
IC522	B-4
IC600	B-7
IC601	D-4
IC602	B-8
IC603	B-8
IC604	C-4
IC605	E-10
IC606	E-2
IC607	D-12
IC608	E-1
IC609	E-1
IC610	E-1
IC611	E-1
IC612	E-1
IC613	E-9
IC614	E-8
IC615	E-8
IC616	E-4
IC617	D-9
IC618	D-4
IC619	D-9
IC700	B-11
IC750	C-11
IC800	C-11
IC850	D-11
IC900	D-11
IC950	E-11
TRANSISTOR	
Q100	A-3
Q101	A-4
Q102	A-3
Q103	A-2
Q104	A-2
Q105	A-5
Q106	A-5
Q107	A-8
Q108	A-8
Q109	A-8
Q110	A-6
Q111	A-7
Q112	A-7
Q113	A-7
Q114	A-7
Q115	A-5
Q116	A-5
Q500	C-5
Q501	B-6
Q502	D-5
Q503	B-6
Q504	D-5
Q505	D-5
Q506	D-7
Q507	D-5
Q508	B-5
Q511	E-5
Q512	E-7
Q513	E-5
Q514	E-6
Q515	E-7
Q516	E-6
Q517	E-5
Q518	E-5
Q519	E-8
Q520	C-6
Q604	B-5
Q605	D-1
Q606	C-5
Q607	C-5
Q608	D-9
Q609	D-10
Q651	D-4
Q702	B-11
Q703	B-2
Q704	B-12
Q705	C-1
Q706	B-2
Q707	B-3
Q750	C-10
Q751	C-10
Q752	B-3
Q753	C-10
Q754	C-11
Q755	C-2
Q756	C-10
Q757	C-10
Q758	C-3
Q759	C-12
Q760	B-10
Q761	B-10
Q762	C-10
Q763	C-1
Q764	B-11
Q765	B-3
Q766	B-3
Q802	C-11
Q803	C-2
Q804	C-12
Q805	C-1
Q806	C-2
Q807	C-3
Q850	C-10
Q851	D-10
Q852	C-3
Q853	D-10
Q854	C-10
Q855	C-2
Q856	C-10
Q857	C-10
Q858	C-3
Q859	C-12
Q860	C-10
Q861	C-10
Q862	C-10
Q863	C-1
Q864	C-11
Q865	C-3
Q866	C-3
Q902	D-11
Q903	D-2
Q904	D-12
Q905	D-1
Q906	D-2
Q907	D-3
Q950	D-10
Q951	D-10
Q952	D-3
Q953	D-10
Q954	D-10
Q955	D-10
Q956	D-11
Q957	D-3
Q958	D-10
Q959	D-2
Q960	D-12
Q961	D-10
Q962	D-10
Q963	D-1
Q964	D-11
Q965	D-3
Q966	D-3
VARIABLE RESISTOR	
RV101	A-7
RV501	B-9
RV600	C-9
RV601	C-9
RV602	C-9
RV603	C-9
RV750	C-11
RV850	D-11
RV950	E-11
TEST POINT	
TP100	A-8
TP101	A-7
TP102	A-7
TP103	A-8

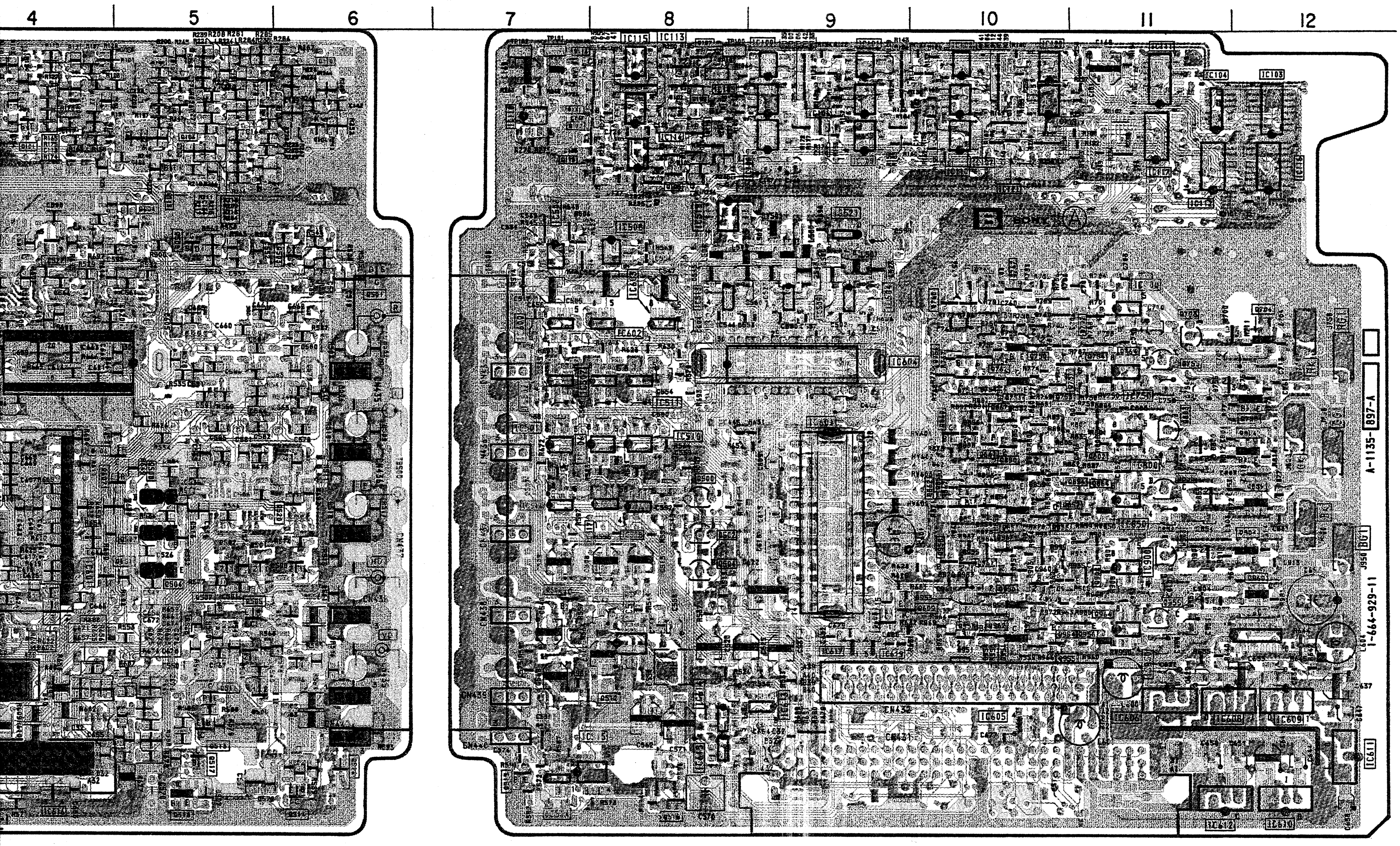
B (INPUT AMP, INPUT SELECT, GAM ADJ, CONTRAST ADJ, RGB AMP, BLK CONTROL, DAC, BLK PULSE GEN., ABL CONTROL) BOARD

— B BOARD — <Conductor side>



OARD

— B BOARD — <Component side>



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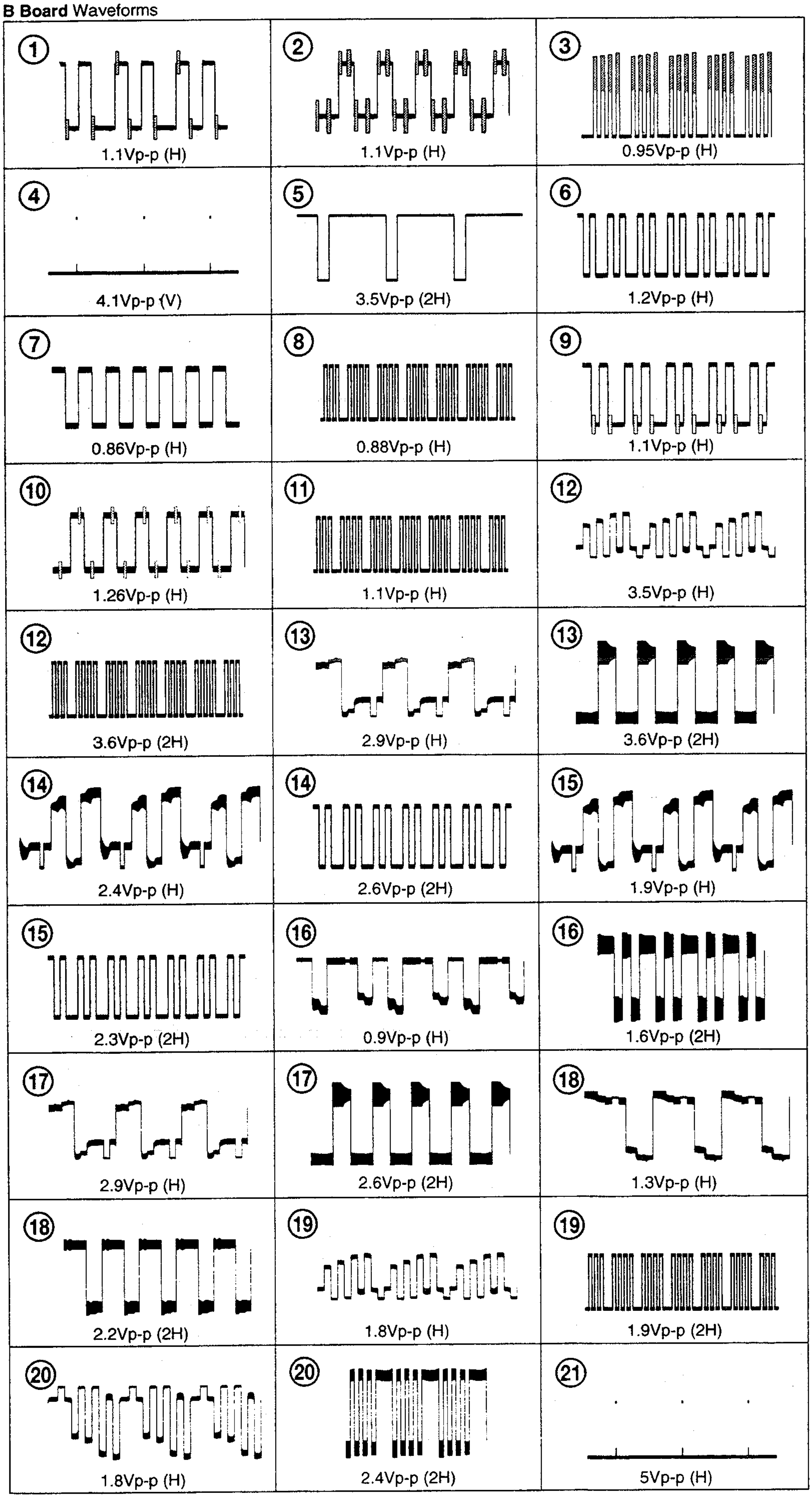
IC115
IC113
IC104
IC108
IC604
IC605
IC608
IC609
IC611
IC612
IC610
C460
A-1135-897-A
1-664-929-11

- ░: Pattern from the side which enables seeing.
- ▓: Pattern of the rear side.

B Board Waveforms



B BOARD

Function of Semiconductor (1/2)

D100	1S2837	ABL	IC104	PC74HC164D-T	PULSE GENERATOR
D101	1S2837	Q108 PROTECTOR	IC105	TL082CPS-E20	R BIAS LEVEL, R BKG CONT.
D102	1S2837	Q109 PROTECTOR	IC106	TL082CPS-E20	G BIAS LEVEL, G BKG CONT.
D103	1S2837	Q110 PROTECTOR	IC107	TL082CPS-E20	B BIAS LEVEL, B BKG CONT.
D104	RD5.1M-B2	IK PROTECTOR	IC108	TL082CPS-E20	LEVEL SHIFT
D105	1S2837	Q116 PROTECTOR	IC109	TL082CPS-E20	LEVEL SHIFT
D500	1SS123	PROTECTOR	IC110	TL082CPS-E20	LEVEL SHIFT
D501	1SS123	PROTECTOR	IC111	MC14053BF-T2	SWITCH
D502	1SS123	PROTECTOR	IC112	CXA1875AM-T4	DAC AND SW
D503	1SS123	PROTECTOR	IC113	TL082CPS-E20	
D504	1S2837	PROTECTOR	IC114	TL082CPS-E20	PEAK ABL, SINGLE ABL
D505	1SS123	PROTECTOR	IC115	TL082CPS-E20	SIZE ABL, ABL ADJ
D506	1S2837	PROTECTOR	IC116	CXA1875AM	DAC AND SW
D507	1S2837	PROTECTOR	IC117	CXA1875AM	DAC AND SW
D602	1SS123	OSD ABL	IC118	uPC393G2-T2	IK PROTECTOR
D700	1SS123	BIAS	IC119	TL082CPS-E20	R.G DRIVE
D703	1S2837	PROTECTOR	IC120	TL082CPS-E20	BRIGHT, B DRIVE
D750	1S2837	PROTECTOR	IC121	TC7S66F-TE85R	ABL LINK SW
D751	1S2837	PROTECTOR	IC501	CXA1450M-T4	RGB/OTHER SW
D752	1S2837	MIX	IC502	MAX4121CSA-TE2	RGB/VIDEO SW
D753	1S2837	PROTECTOR	IC503	uPC4558G2-T2	INTEGRATER
D754	1S2837	PROTECTOR	IC504	AD835AR-REEL	DIFRECTION MATRIX
D755	1SS123	BIAS	IC506	CXA1450M-T4	RGB/OTHER SW
D756	1S2837	PROTECTOR	IC507	MAX4121CSA-TE2	RGB/VIDEO SW
D757	1S2837	BKG MIX	IC508	uPC4558G2-T2	INTEGRATOR
D758	1S2837	PROTECTOR	IC509	AD835AR-REEL	DEFLECTION MATRIX
D759	1SS123	PROTECTOR	IC510	CXA1450M-T4	RGB/OTHER SW
D760	1S2837	PROTECTOR	IC511	MAX4121CSA-TE2	RGB/VIDEO SW
D800	1SS123	BIAS	IC512	TL082CPS-E20	BUFFER
D803	1S2837	PROTECTOR	IC513	AD835AR-REEL	DIFLECTION MATRIX
D850	1S2837	PROTECTOR	IC514	GS1881-CTA	SYNC SEP
D851	1S2837	PROTECTOR	IC515	SN75157PS-ELL2000	COMPARATOR
D852	1S2837	MIX	IC516	MAX4121CSA-TE2	INPUT A/B SW
D853	1S2837	PROTECTOR	IC517	MAX4121CSA-TE2	INPUT A/B SW
D854	1S2837	PROTECTOR	IC518	MAX4121CSA-TE2	INPUT A/B SW
D855	1SS123	BIAS	IC519	TL082CPS-E20	BUFFER
D856	1S2837	PROTECTOR	IC520	TC7S66F-TE85R	PED HOLD SW
D857	1S2837	BKG MIX	IC521	TC4W53F-TE12R	H PED SW
D858	1S2837	PROTECTOR	IC522	TC7S32F-TE85R	CLAMP TIMING
D859	1SS123	PROTECTOR	IC600	MAX4121CSA-TE2	RGB/TEST SW
D860	1S2837	PROTECTOR	IC601	LM1283	RGB MATRIX
D900	1SS123	BIAS	IC602	MAX4121CSA-TE2	RGB/TEST SW
D903	1S2837	PROTECTOR	IC603	MAX4121CSA-TE2	RGB/TEST SW
D950	1S2837	PROTECTOR	IC604	CXA3069S	GAMMA CORRECTION
D951	1S2837	PROTECTOR	IC605	TC7S04F-TE85R	INVERTER
D952	1S2837	MIX	IC606	LM2940CT-5.0	+5V REG.
D953	1S2837	PROTECTOR	IC607	MAX8213BCSE-TE2	VOLTAGE COMPARATOR
D954	1S2837	PROTECTOR	IC608	LM7812CT	+12V REG.
D955	1S2837	PROTECTOR	IC609	LM7812CT	+12V REG.
D956	1S2837	BKG MIX	IC610	LM7912CT	−12V REG.
D957	1SS123	BIAS	IC611	NJM7809FA	+9V REG.
D958	1S2837	PROTECTOR	IC612	LM2990T-5.0	−5V REG.
D959	1SS123	PROTECTOR	IC613	EL2186CS-TE2	BUFFER
D960	1S2837	PROTECTOR	IC614	EL2186CS-TE2	BUFFER
			IC615	EL2186CS-TE2	BUFFER
IC100	NJM4200M-T1	R BKG CONT.	IC616	TC7S08F-TE85R	BUFFER
IC101	NJM4200M-T1	G BKG CONT.	IC617	TC7S04F-TE85R	INVERTER
IC102	NJM4200M-T1	B BKG CONT.	IC618	TC7S04F-TE85R	INVERTER
IC103	MC74HC02AF-T2	PULSE GENERATOR	IC619	TC7S32F-TE85R	BLKG MIX

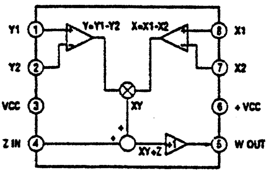
B BOARD

Function of Semiconductor (2/2)

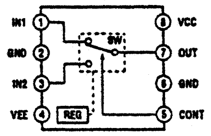
Q100	DTC144EKA	G CUT OFF SW
Q101	DTC144EKA	R CUT OFF SW
Q102	DTC144EKA	B CUT OFF SW
Q103	2SC2712-YG	
Q104	2SC2712-YG	
Q105	2SC2712-YG	
Q106	2SC2712-YG	
Q107	2SC2712-YG	
Q108	2SC2712-YG	
Q109	2SA1162-YG	BUFFER
Q110	2SC2712-YG	SIZE ABL
Q111	2SC2712-YG	BUFFER
Q112	2SC2712-YG	BUFFER
Q113	2SC2712-YG	BUFFER
Q114	2SA1162-YG	BUFFER
Q115	2SC2712-YG	TOTAL ABL
Q116	2SC2712-YG	TOTAL ABL
Q500	2SC1906	BUFFER
Q501	2SK160-K4	CLAMP SW
Q502	2SC1906	BUFFER
Q503	2SK160-K4	CLAMP SW
Q504	2SC1906	BUFFER
Q505	2SC2712-YG	BUFFER
Q506	2SC2712-YG	BUFFER
Q507	2SA1162-YG	BUFFER
Q508	2SK160-K4	CLAMP SW
Q511	2SC2712-YG	BUFFER
Q512	2SC2712-YG	BUFFER
Q513	2SA1162-YG	BUFFER
Q514	2SA1462-Y34	BUFFER
Q515	2SC2712-YG	BUFFER
Q516	2SA1162-YG	BUFFER
Q517	DTC144EKA	SWITCH
Q518	2SB798-DLDK	BUFFER
Q519	2SC2712-YG	BUFFER
Q520	DTC144EKA	INVERTER
Q604	2SC2712-YG	BUFFER
Q605	DTC144EKA	BUFFER (O.C)
Q606	2SC3545-T44	AMP
Q607	2SC3545-T44	AMP
Q608	2SC3545-T44	AMP
Q609	2SC3545-T44	AMP
Q651	2SC2712-YG	BUFFER
Q702	2SA1462-Y34	CURRENT SOURCE
Q703	2SC2498	BUFFER
Q704	2SC4504D-TD	BUFFER
Q705	2SA1724-TD	BUFFER
Q706	2SA1462-Y34	LIMITTER
Q707	2SA1462-Y34	BUFFER
Q750	2SC3357-HFE	BUFFER
Q751	2SC3357-HFE	BUFFER
Q752	2SA1462-Y34	BUFFER
Q753	2SC3545-T44	BUFFER
Q754	2SA1462-Y34	BUFFER
Q755	2SC2498	BUFFER
Q756	2SA1462-Y34	BKG-R SW
Q757	2SC3356	CURRENT SOURCE
Q758	2SC2712-YG	BKG SW
Q759	2SC4504D-TD	BUFFER
Q760	2SC2712-YG	BLKG SW
Q761	2SC3545-T44	BUFFER
Q762	2SA1462-Y34	BUFFER
Q763	2SA1724-TD	BUFFER
Q764	2SA1462-Y34	BUFFER
Q765	2SA1162-YG	CURRENT SOURCE
Q766	2SA1462-Y34	LIMITTER
Q802	2SA1462-Y34	CURRENT SOURCE
Q803	2SC2498	BUFFER
Q804	2SC4504D-TD	BUFFER
Q805	2SA1724-TD	BUFFER
Q806	2SA1462-Y34	LIMITTER
Q807	2SA1462-Y34	BUFFER
Q850	2SC3357-HFE	BUFFER
Q851	2SC3357-HFE	BUFFER
Q852	2SA1462-Y34	BUFFER
Q853	2SC3545-T44	BUFFER
Q854	2SA1462-Y34	BUFFER
Q855	2SC2498	BUFFER
Q856	2SA1462-Y34	BKG-G SW
Q857	2SC3356	CURRENT SOURCE
Q858	2SC2712-YG	BKG SW
Q859	2SC4504D-TD	BUFFER
Q860	2SC2712-YG	BLKG SW
Q861	2SC3545-T44	BUFFER
Q862	2SA1462-Y34	BUFFER
Q863	2SA1724-TD	BUFFER
Q864	2SA1462-Y34	BUFFER
Q865	2SA1162-YG	CURRENT SOURCE
Q866	2SA1462-Y34	LIMITTER
Q902	2SA1462-Y34	CURRENT SOURCE
Q903	2SC2498	BUFFER
Q904	2SC4504D-TD	BUFFER
Q905	2SA1724-TD	BUFFER
Q906	2SA1462-Y34	LIMITTER
Q907	2SA1462-Y34	BUFFER
Q950	2SC3357-HFE	BUFFER
Q951	2SC3357-HFE	BUFFER
Q952	2SA1462-Y34	BUFFER
Q953	2SA1462-Y34	BKG-B SW
Q954	2SC3356	CURRENT SOURCE
Q955	2SC3545-T44	BUFFER
Q956	2SA1462-Y34	CURRENT SOURCE
Q957	2SC2712-YG	BUFFER
Q958	2SC2712-YG	BLKG SW
Q959	2SC2498	BUFFER
Q960	2SC4504D-TD	BUFFER
Q961	2SC3545-T44	BUFFER
Q962	2SA1462-Y34	BUFFER
Q963	2SA1724-TD	BUFFER
Q964	2SA1462-Y34	BUFFER
Q965	2SA1162-YG	CURRENT SOURCE
Q966	2SA1462-Y34	LIMITTER

B BOARD IC Block Diagrams

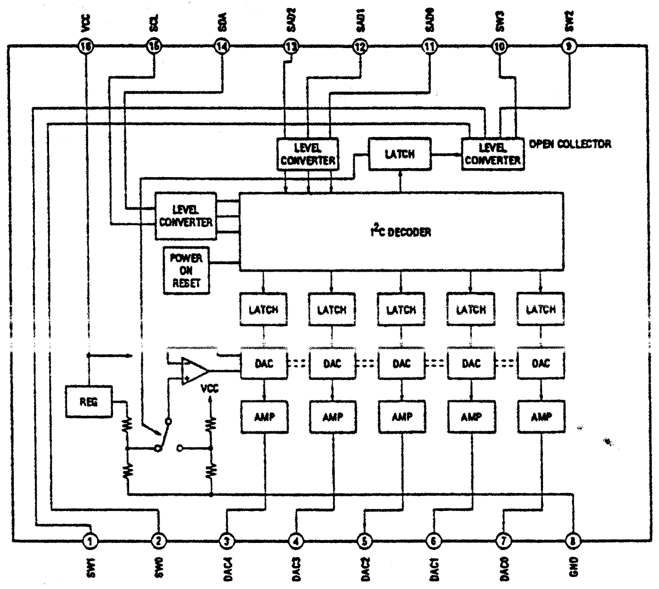
AD835AR (IC504, 509, 513)


Y1
Y2
-VCC
Z IN
X1
X2
+VCC
W OUT
Y=Y1-Y2
X=X1-X2
XY
XY+Z

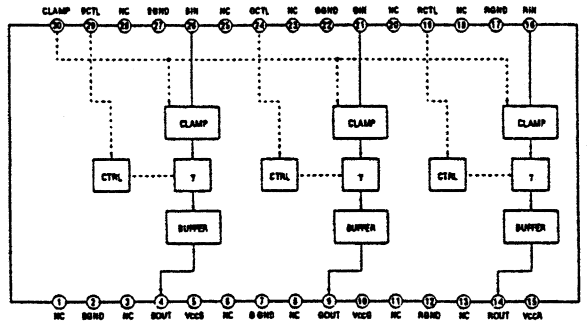
CXA1450M
(IC501, 506, 510)


IN1
GND
IN2
VEE
VCC
OUT
GND
CONT
SW
REG

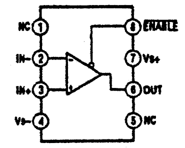
CXA1875AM (IC116, 117, 112)


VCC
SCL
SDA
SAD2
SAD1
SAD0
SW3
SW2
LEVEL CONVERTER
LATCH
LEVEL CONVERTER
OPEN COLLECTOR
LEVEL CONVERTER
I²C DECODER
POWER ON RESET
LATCH
DAC
AMP
REG
VCC
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
GND

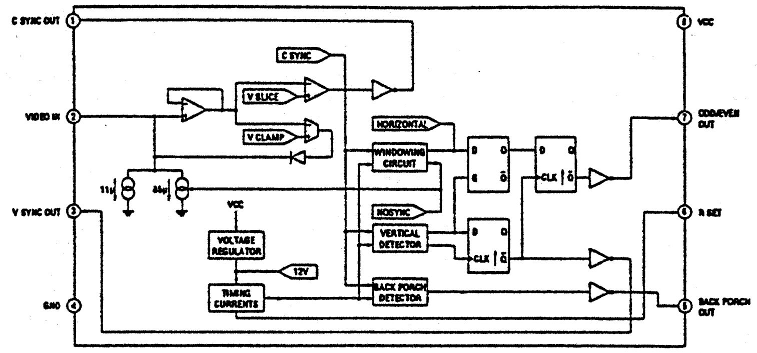
CXA3069S (IC604)


CLAMP
BCTL
NC
BGND
BIN
NC
GCTL
NC
GGND
GIN
NC
RCTL
NC
RGND
RIN
CLAMP
CTRL
BUFFER
NC
BGND
NC
BOUT
VccB
NC
G GND
NC
GOUT
VccG
NC
RGND
NC
ROUT
VccA

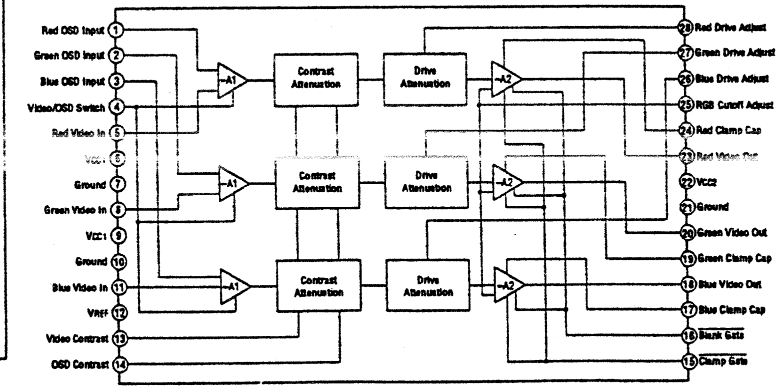
EL2186CS
(IC613—615)


NC
IN-
IN+
Vs-
ENABLE
Vs+
OUT
NC

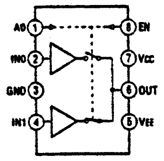
GS1881 (IC514)


C SYNC OUT
VIDEO IN
V SYNC OUT
GND
VCC
ODD/EVEN OUT
R SET
BACK PORCH OUT
C SYNC
V SLICE
V CLAMP
HORIZONTAL
WINDOWING CIRCUIT
NOSYNC
VERTICAL DETECTOR
BACK PORCH DETECTOR
VOLTAGE REGULATOR
TIMING CURRENTS
12V
VCC
D
Q
CLK

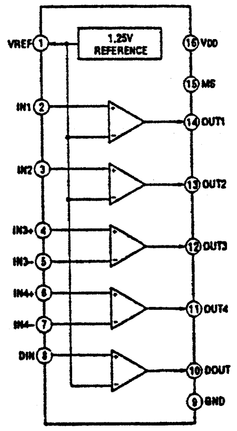
LM1283 (IC601)


Red OSD Input
Green OSD Input
Blue OSD Input
Video/OSD Switch
Red Video In
Vcc1
Ground
Green Video In
Vcc1
Ground
Blue Video In
VREF
Video Contrast
OSD Contrast
Red Drive Adjust
Green Drive Adjust
Blue Drive Adjust
RGB Cutoff Adjust
Red Clamp Cap
Red Video Out
Vcc2
Ground
Green Video Out
Green Clamp Cap
Blue Video Out
Blue Clamp Cap
Blank Gate
Clamp Gate
-A1
Contrast Attenuation
Drive Attenuation
-A2

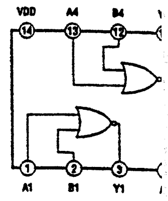
MAX4121CSA
(IC502, 507, 511,
516—518,
600, 602, 603)


A0
IN0
GND
IN1
EN
Vcc
OUT
VEE

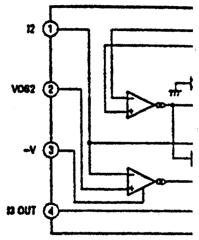
MAX8213 (IC607)


VREF
IN1
IN2
IN3+
IN3-
IN4+
IN4-
DIN
1.25V REFERENCE
VDD
MS
OUT1
OUT2
OUT3
OUT4
DOUT
GND

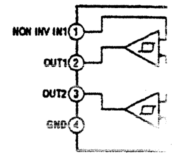
MC74HC02AF


VDD
A4
B4
A1
B1
Y1

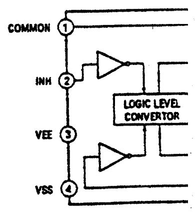
NJM4200M-T


I2
VOS2
-V
I3 OUT

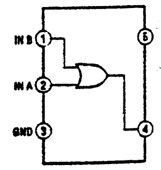
SN75157


NON INV IN1
OUT1
OUT2
GND

TC4W53F (

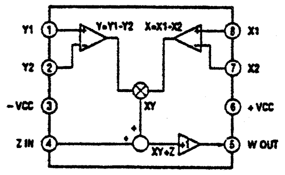

COMMON
INH
VEE
VSS
LOGIC LEVEL CONVERTOR

TC7S32F
(IC522)

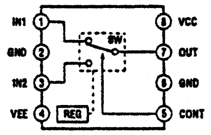


B BOARD IC Block Diagrams

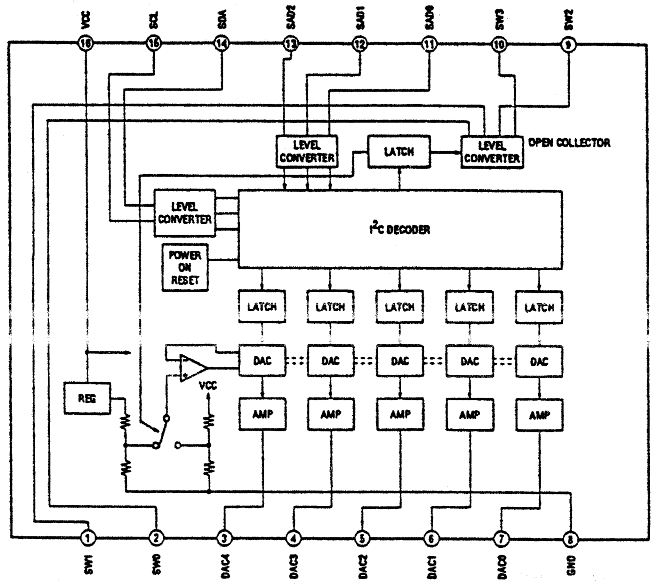
AD835AR (IC504, 509, 513)


Y1
Y2
- VCC
Z IN
X1
X2
+ VCC
W OUT
Y=Y1-Y2
X=X1-X2
XY
XY+Z

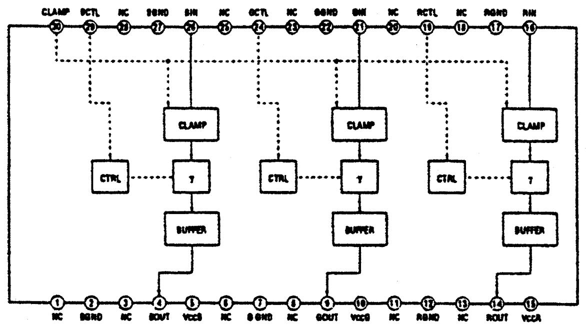
CXA1450M
(IC501, 506, 510)


IN1
GND
IN2
VEE
VCC
OUT
GND
CONT
SW
REG

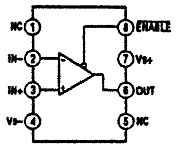
CXA1875AM (IC116, 117, 112)


VCC
SCL
SDA
SAD2
SAD1
SAD0
SW3
SW2
LEVEL CONVERTER
LATCH
LEVEL CONVERTER
OPEN COLLECTOR
LEVEL CONVERTER
I²C DECODER
POWER ON RESET
LATCH
DAC
AMP
REG
VCC
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
GND

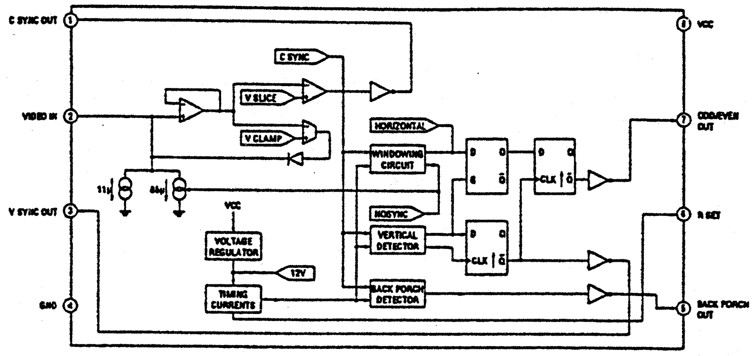
CXA3069S (IC604)


CLAMP
BCTL
NC
BGND
BIN
NC
GCTL
NC
GGND
GIN
NC
RCTL
NC
RGND
RIN
CLAMP
CTRL
BUFFER
NC
BGND
NC
BOUT
VccB
NC
G GND
NC
GOUT
VccG
NC
RGND
NC
ROUT
VccR

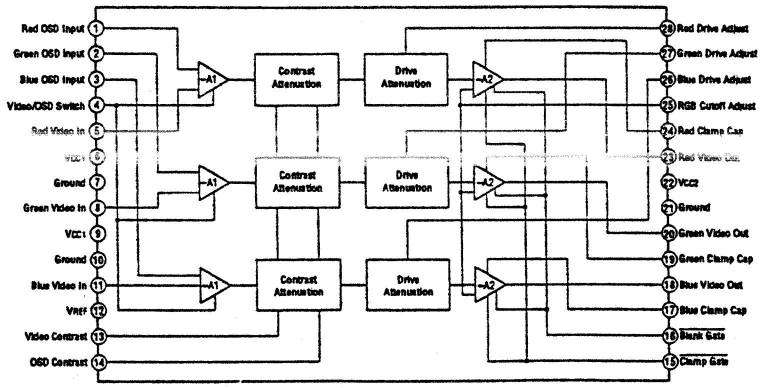
EL2186CS
(IC613—615)


NC
IN-
IN+
Vs-
ENABLE
Vs+
OUT
NC

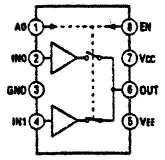
GS1881 (IC514)


C SYNC OUT
VIDEO IN
V SYNC OUT
GND
VCC
ODD/EVEN OUT
R SET
BACK PORCH OUT
C SYNC
V SLICE
V CLAMP
HORIZONTAL
WINDOWING CIRCUIT
NOSYNC
VERTICAL DETECTOR
BACK PORCH DETECTOR
VOLTAGE REGULATOR
TIMING CURRENTS
VCC
12V
11µ
88µ
D
Q
CLK

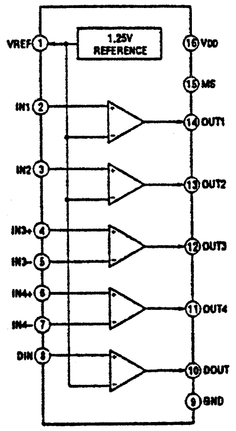
LM1283 (IC601)


Red OSD Input
Green OSD Input
Blue OSD Input
Video/OSD Switch
Red Video In
VCC1
Ground
Green Video In
VCC1
Ground
Blue Video In
VREF
Video Contrast
OSD Contrast
Red Drive Adjust
Green Drive Adjust
Blue Drive Adjust
RGB Cutoff Adjust
Red Clamp Cap
Red Video Out
VCC2
Ground
Green Video Out
Green Clamp Cap
Blue Video Out
Blue Clamp Cap
Blank Gate
Clamp Gate
A1
Contrast Attenuation
Drive Attenuation
A2

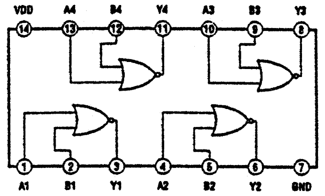
MAX4121CSA
(IC502, 507, 511,
516—518,
600, 602, 603)


A0
IN0
GND
IN1
EN
Vcc
OUT
VEE

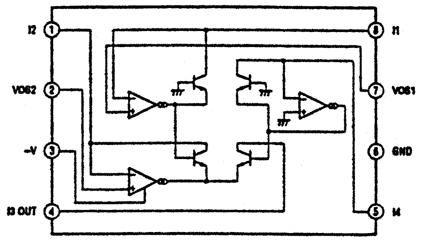
MAX8213 (IC607)


VREF
IN1
IN2
IN3+
IN3-
IN4+
IN4-
DIN
1.25V REFERENCE
VDD
MS
OUT1
OUT2
OUT3
OUT4
DOUT
GND

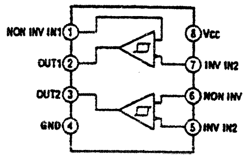
MC74HC02AF (IC103)


VDD
A4
B4
Y4
A3
B3
Y3
A1
B1
Y1
A2
B2
Y2
GND

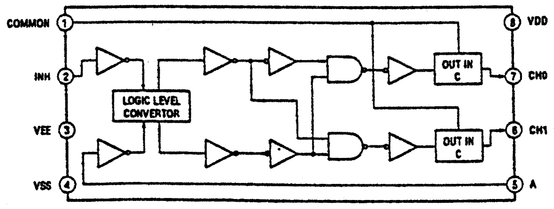
NJM4200M-T1 (IC100, 101, 102)


I2
VOS2
-V
I3 OUT
I1
VOS1
GND
I4

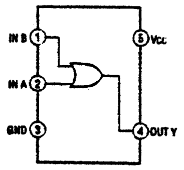
SN75157 (IC515)


NON INV IN1
OUT1
OUT2
GND
Vcc
INV IN2
NON INV IN2
INV IN2

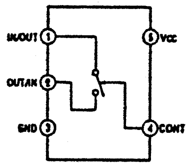
TC4W53F (IC521)


COMMON
INH
VEE
VSS
VDD
CH0
CH1
A
LOGIC LEVEL CONVERTOR
OUT IN C

TC7S32F
(IC522)

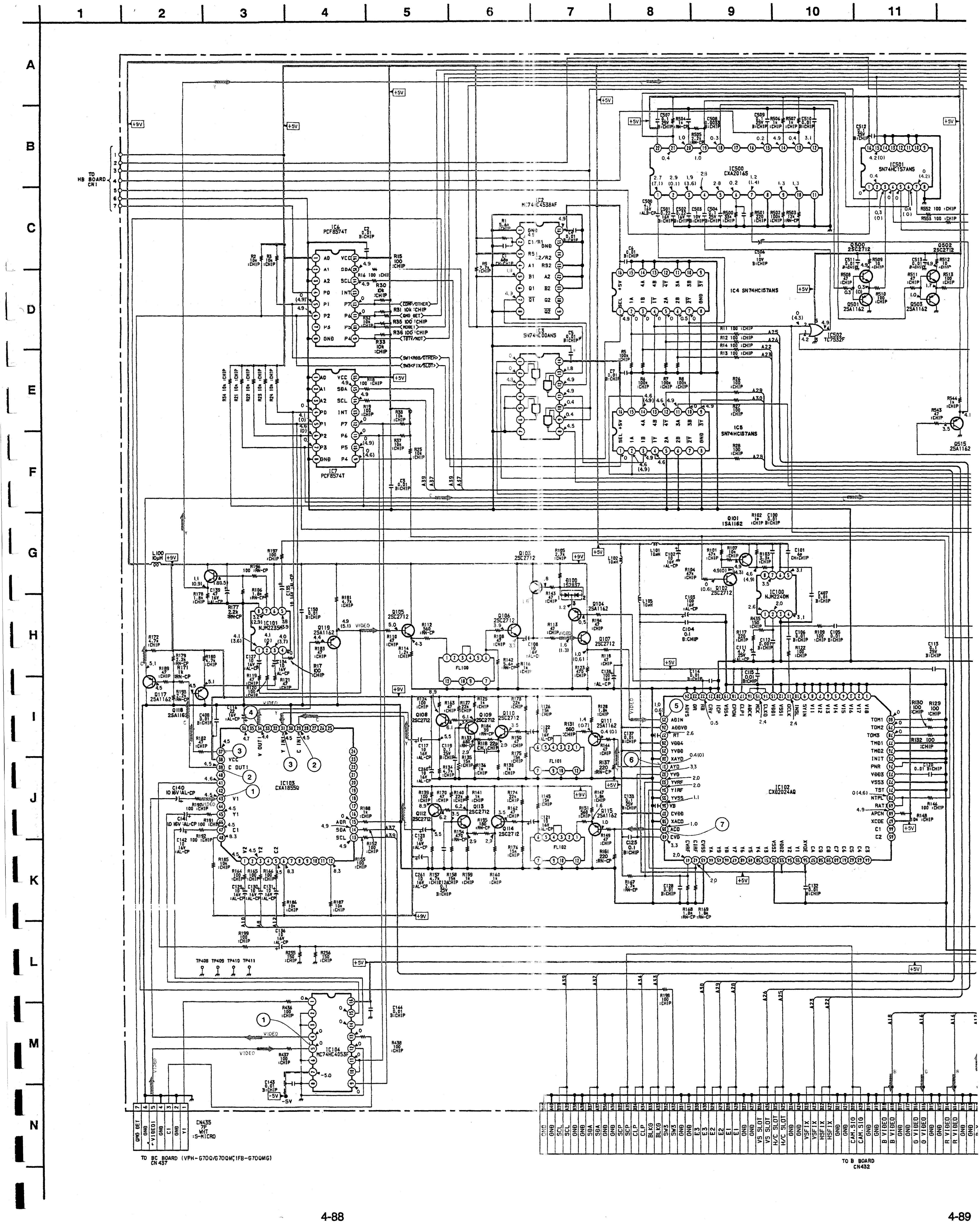

IN B
IN A
GND
Vcc
OUT Y

TC7S66F
(IC121, 520)


IN/OUT
OUT/IN
GND
VCC
CONT

Schematic Diagram
BA board ➡

- **BA (VIDEO SW, CHROMA DECODER, R.G.B INTERFACE) DIAGRAM**
- Refer to page 4-94 for Function of Semiconductor
- Refer to page 4-95 for IC Block Diagram



1
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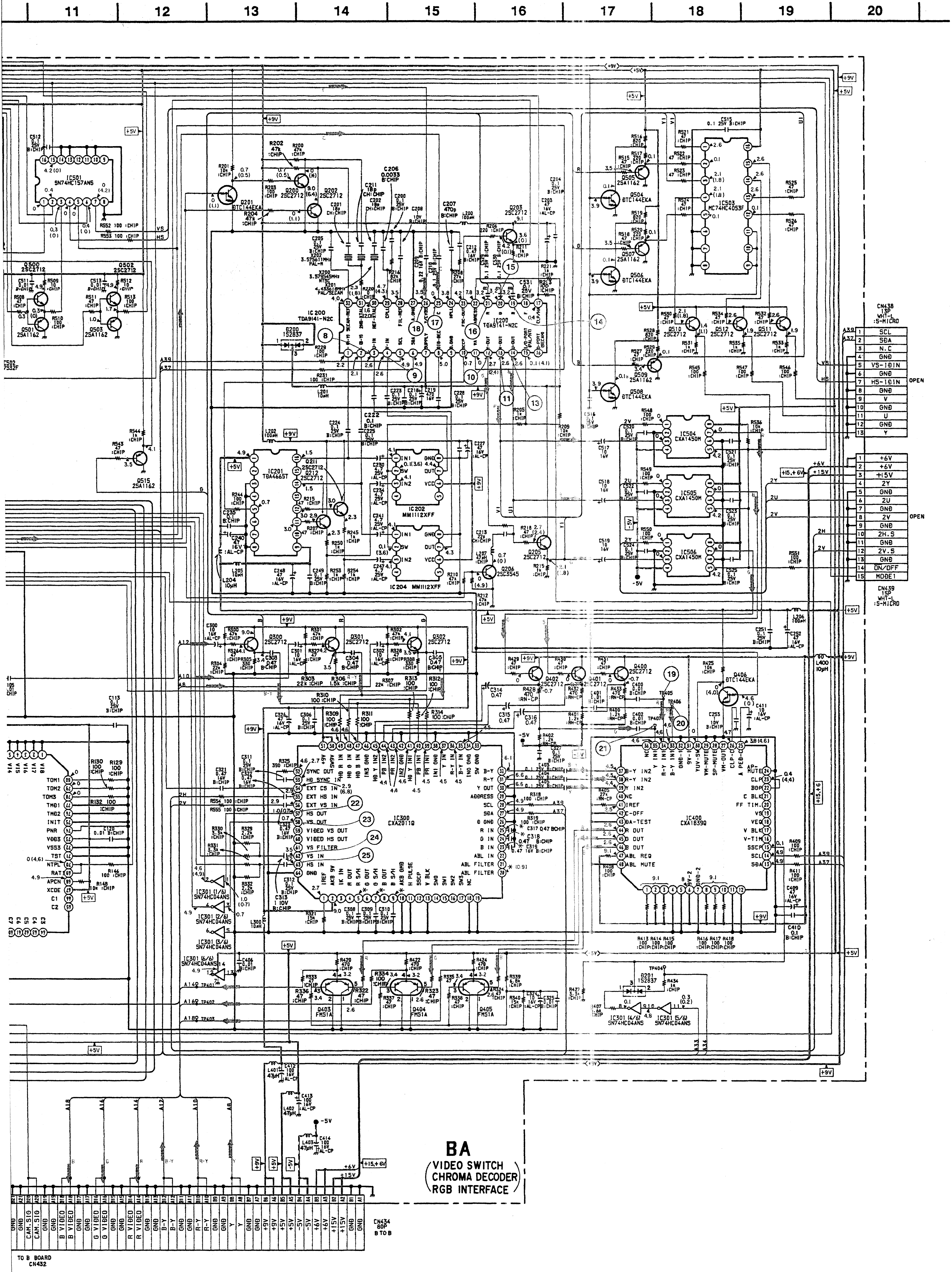
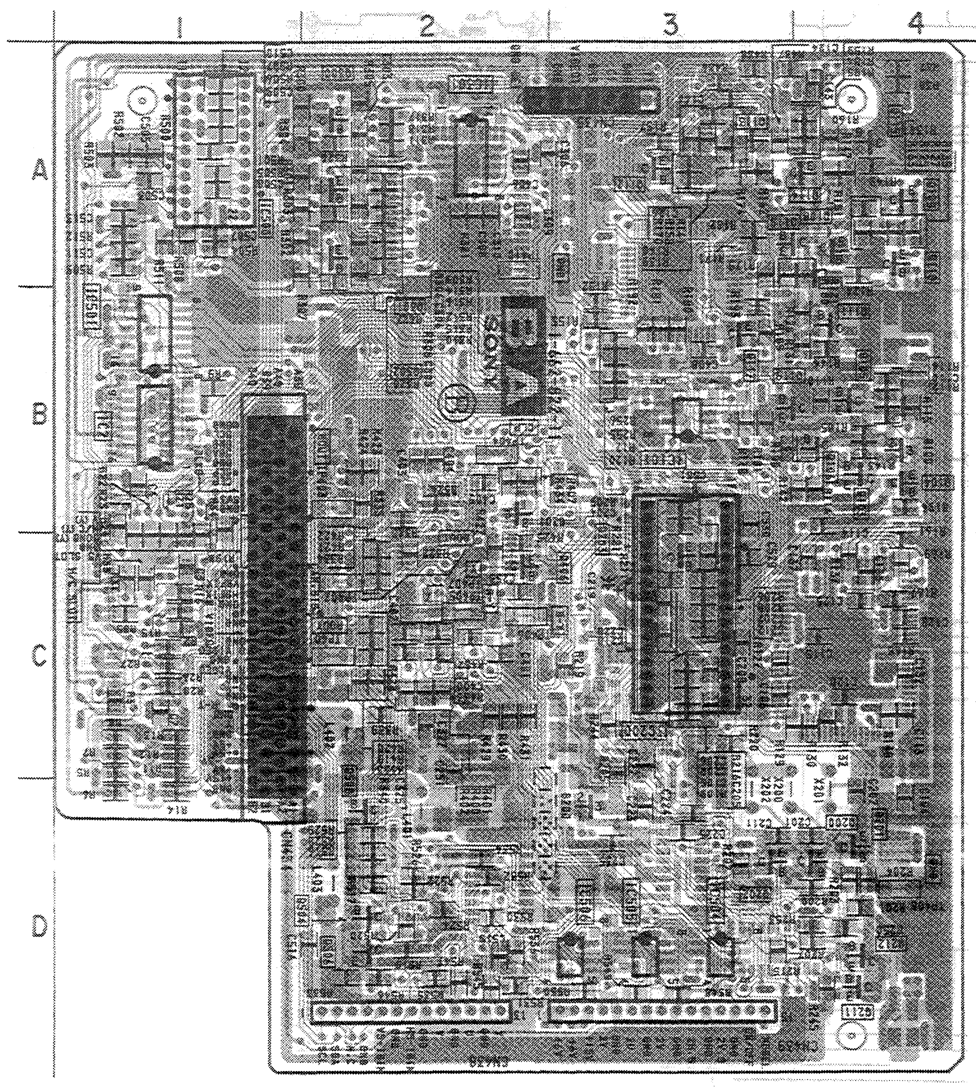
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
TO HB BOARD CN1
IC6 PCF8574T
IC7 PCF8574T
IC2 MC74HC4538AF
IC3 SN74HC00ANS
IC4 SN74HC157ANS
IC5 SN74HC157ANS
IC500 CXA2016S
IC501 SN74HC157ANS
IC502 TC7S32F
Q500 2SC2712
Q501 2SA1162
Q502 2SC2712
Q503 2SA1162
Q515 2SA1162
Q101 1SA1162
IC101 NJM2235M
IC100 NJM2240M
IC103 CXA1855Q
IC102 CXD2024AQ
IC104 MC74HC4053F
Q105 2SC2712
Q106 2SC2712
Q103 2SC2712
D100 1SS357
Q104 2SA1162
Q107 2SC2712
Q102 2SC2712
Q119 2SA1162
Q117 2SA1162
Q118 2SA1162
Q108 2SC2712
Q109 2SC2712
Q110 2SC2712
Q111 2SA1162
Q112 2SC2712
Q113 2SC2712
Q114 2SC2712
Q115 2SA1162
FL100
FL101
FL102
L100 10μH
COMP/OTHER
GND SET
MODE1
TBTV/NOT
SW1<RGB/OTHER>
SW3<FIX/SLOT>
+5V
+9V
-5V
VIDEO
TP408 TP409 TP410 TP411
CN435 7P WHT :S-MICRO
QMG DET
GND
VIDEO1
C1
GND
Y1
TO BC BOARD (VPH-G700/G700MG, IFB-G700MG) CN437
GND GND SCL GND GND SDA GND GND SCP CLP BLKG BLKG SW3 SW1 GND E3 E2 E1 GND VS SLOT VS SLOT H/C SLOT GND VSFIX VSFIX HSFIX GND CAM. SIG GND B VIDEO GND GND G VIDEO GND GND R VIDEO GND
TO B BOARD CN432

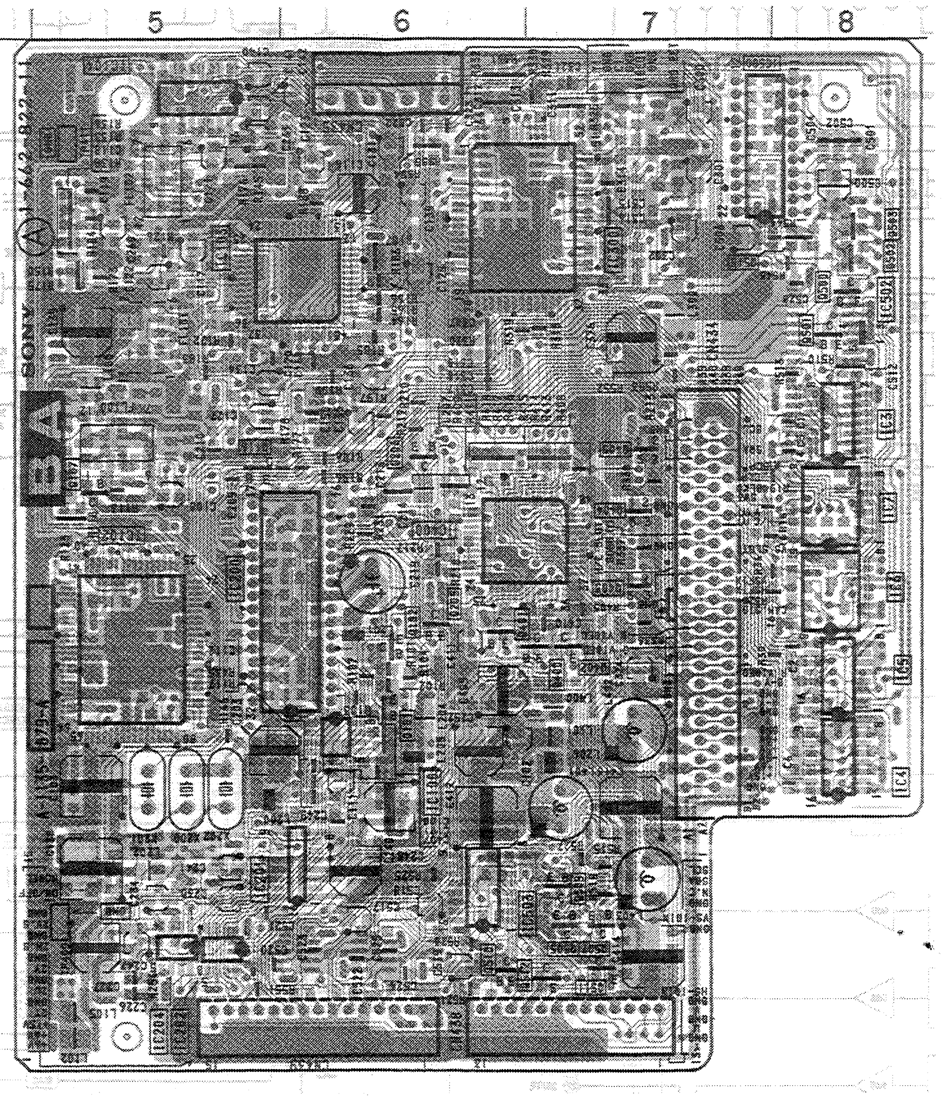

11
12
13
14
15
16
17
18
19
20
IC501 SN74HC157ANS
IC200 TDA9141-N2C
IC201 TBA4665T
IC202 MM1112XFF
IC204 MM1112XFF
IC503 MC74HC4053F
IC504 CXA1450M
IC505 CXA1450M
IC506 CXA1450M
IC300 CXA2011Q
IC400 CXA1839Q
IC301 SN74HC04ANS
Q403 FMS1A
Q404 FMS1A
Q405 FMS1A
CN438 13P WHT-L :S-MICRO
1 SCL
2 SDA
3 N.C
4 GND
5 VS-IBIN
6 GND
7 HS-IBIN
8 GND
9 V
10 GND
11 U
12 GND
13 Y
OPEN
CN439 15P WHT-L :S-MICRO
1 +6V
2 +6V
3 +15V
4 2Y
5 GND
6 2U
7 GND
8 2V
9 GND
10 2H.S
11 GND
12 2V.S
13 GND
14 ON/OFF
15 MODE1
OPEN
BA
VIDEO SWITCH
CHROMA DECODER
RGB INTERFACE
CN434 60P B TO B
TO B BOARD CN432

BA (VIDEO SW, CHROMA DECODER, R.G.B INTERFACE) BOARD

— BA BOARD — <Conductor side>



— BA BOARD — <Component side>



- ░: Pattern from the side which enables seeing.
- ▓: Pattern of the rear side.

BA BOARD
Semiconductors Location

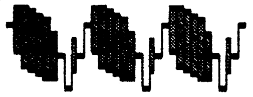
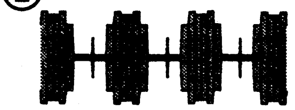
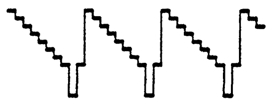
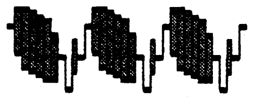
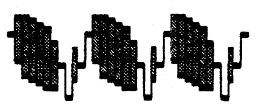
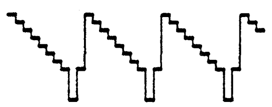
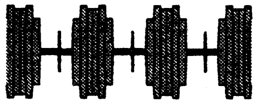
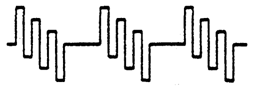
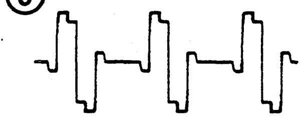
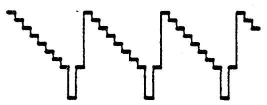
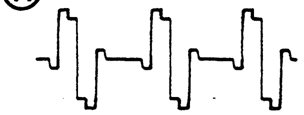
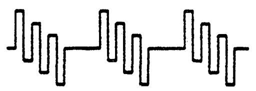
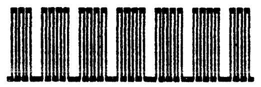
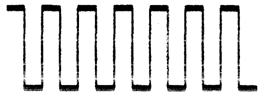
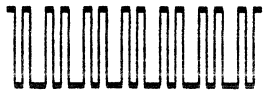
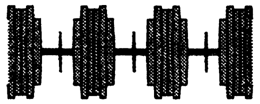
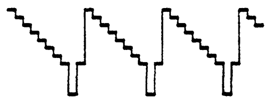
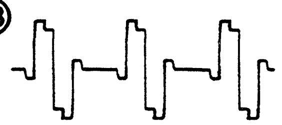
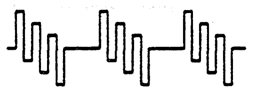
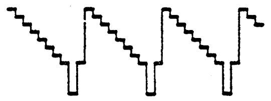
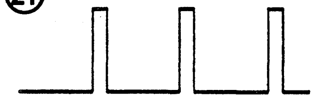
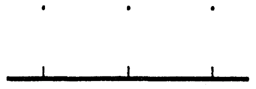
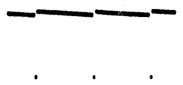
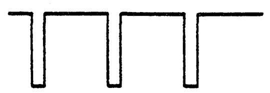
DIODE	
D100	B-4
D200	D-3
D201	B-2

IC	
IC2	B-1
IC3	B-8
IC4	C-8
IC5	C-8
IC6	C-8
IC7	B-8
IC100	C-6
IC101	B-3
IC102	C-5
IC103	A-6
IC104	A-5
IC200	C-3
IC201	D-6
IC202	D-5
IC204	D-5
IC300	A-7
IC301	A-2
IC400	C-6
IC500	A-1
IC501	B-1
IC502	B-8
IC503	D-6
IC504	D-3
IC505	D-3
IC506	D-3

TRANSISTOR	
Q101	C-6
Q102	C-6
Q103	B-4
Q104	B-4
Q105	B-4
Q106	B-4
Q107	B-5
Q108	A-4
Q109	A-4
Q110	A-4
Q111	B-4
Q112	A-3
Q113	A-3
Q114	A-4
Q115	A-5
Q116	B-5
Q117	B-3
Q118	A-3
Q119	B-3
Q200	D-4
Q201	D-4
Q202	D-3
Q203	C-3
Q205	C-6
Q206	B-6
Q211	D-4
Q212	D-4
Q300	A-2
Q301	A-2
Q302	A-2
Q400	C-7
Q401	C-6
Q402	C-7
Q403	C-7
Q404	B-7
Q405	B-7
Q406	C-2
Q500	B-8
Q501	B-8
Q502	A-8
Q503	A-8
Q504	D-2
Q505	D-7
Q506	D-2
Q507	D-7
Q508	D-2
Q509	D-7
Q510	D-6
Q511	D-7
Q512	D-7
Q515	A-8

TEST POINT	
TP401	C-2
TP402	C-2
TP403	B-2
TP404	B-2
TP405	C-2
TP406	C-2
TP407	C-2
TP408	D-4
TP409	D-5
TP410	A-2
TP411	A-5

BA Board Waveforms

①  0.5Vp-p (H)	②  0.58Vp-p (H)	③  0.85Vp-p (H)
④  1Vp-p (H)	⑤  0.9Vp-p (H)	⑥  0.74Vp-p (H)
⑦  0.6Vp-p (H)	⑧  1.4Vp-p (H)	⑨  1.2Vp-p (H)
⑩  0.6Vp-p (H)	⑪  1.1Vp-p (H)	⑫  1.3Vp-p (H)
⑬  0.85Vp-p (2H)	⑭  0.9Vp-p (2H)	⑮  0.8Vp-p (2H)
⑯  0.32Vp-p (H)	⑰  0.43Vp-p (H)	⑱  0.76Vp-p (H)
⑲  1Vp-p (H)	⑳  0.46Vp-p (H)	㉑  3.8Vp-p (H)
㉒  3.8Vp-p (H)	㉓  1.4Vp-p (V)	㉔  1.8Vp-p (H)

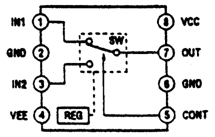
BA BOARD

Function of Semiconductor

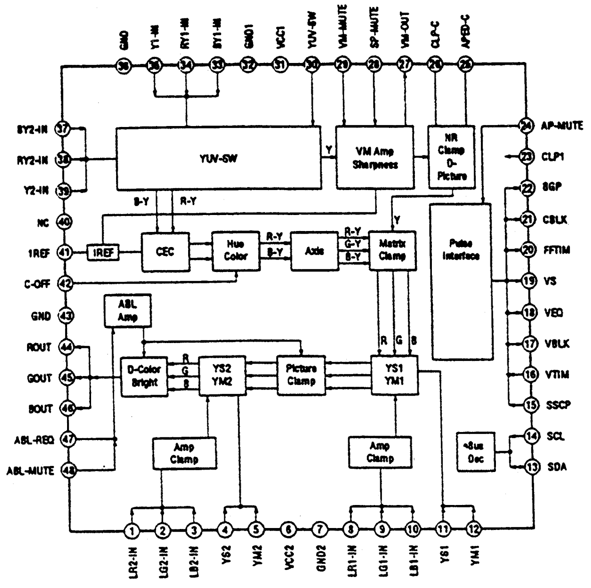
D100	1S2837	LEVEL SHIFT
D200	1S2837	LEVEL SHIFT
D201	1S2837	OR
IC2	MC74HC4538AF-T2	SEPARATION CONVERT
IC3	SN74HC00ANS-E20	SYNC BUFFER
IC4	SN74HC157ANS-E20	SYNC SW
IC5	SN74HC157ANS-E20	SYNC SW
IC6	PCF8574T-T	IIC I/O PROTECTOR
IC7	PCF8574T-T	IIC I/O PROTECTOR
IC100	NJM2240M-TE2	4FSC OSC
IC101	NJM2235M-T2	VIDEO SW
IC102	CXD2024AQ	COMB FILTER
IC103	CXA1855Q-T6	VIDEO SW
IC104	MC74HC4053F-T2	VIDEO SW
IC200	TDA9141-N2C	CHROMA DEC./SYNC SEP
IC201	TDA4665T-T	UV-AMP
IC202	MM1112XFF	UV-SW
IC204	MM1112XFF	UV-SW
IC300	CXA2011Q	HDTV INTERFACE/SYNC SW
IC301	SN74HC04ANS-E20	INVERTER
IC400	CXA1839Q-T6	RGB INTERFACE
IC500	CXA2016S	SYNC SEPARATOR
IC501	SN74HC157ANS-E20	SYNC SW
IC502	TC7S32F-TE85R	IDTV SYNC SW
IC503	MC74HC4053F-T2	VIDEO SW
IC504	CXA1450M-T4	IDTV VIDEO SW
IC505	CXA1450M-T4	IDTV VIDEO SW
IC506	CXA1450M-T4	IDTV VIDEO SW
Q101	2SA1162-YG	NT/PAL SW
Q102	2SC2712-YG	NT/PAL SW
Q103	2SC2712-YG	CLAMP
Q104	2SA1162-YG	CLAMP
Q105	2SC2712-YG	VIDEO BUFFER
Q106	2SC2712-YG	VIDEO BUFFER
Q107	2SC2712-YG	VIDEO BUFFER
Q108	2SC2712-YG	Y BUFFER
Q109	2SC2712-YG	Y AMP
Q110	2SC2712-YG	Y BUFFER
Q111	2SA1162-YG	Y BUFFER
Q112	2SC2712-YG	Y BUFFER
Q113	2SC2712-YG	C AMP
Q114	2SC2712-YG	C BUFFER
Q115	2SA1162-YG	C BUFFER
Q116	2SC2712-YG	VIDEO BUFFER
Q117	2SA1162-YG	C BUFFER
Q118	2SA1162-YG	VIDEO BUFFER
Q119	2SA1162-YG	VIDEO BUFFER
Q200	2SC2712-YG	PAL-M SW
Q201	DTC144EKA	PAL-M SW
Q202	2SC2712-YG	PAL-M SW
Q203	2SC2712-YG	FSC BUFFER
Q205	2SC2712-YG	Y BUFFER
Q206	2SC3545-T44	SECAM SW
Q211	2SC2712-YG	U BUFFER
Q212	2SC2712-YG	V BUFFER
Q300	2SC2712-YG	VIDEO BUFFER
Q301	2SC2712-YG	VIDEO BUFFER
Q302	2SC2712-YG	VIDEO BUFFER
Q400	2SC2712-YG	R-Y BUFFER
Q401	2SC2712-YG	B-Y BUFFER
Q402	2SC2712-YG	Y BUFFER
Q403	FMS1A	LIMITTER
Q404	FMS1A	LIMITTER
Q405	FMS1A	LIMITTER
Q406	DTC144EKA	Y/U/V
Q500	2SC2712-YG	SYNC BUFFER
Q501	2SA1162-YG	SYNC BUFFER
Q502	2SC2712-YG	SYNC BUFFER
Q503	2SA1162-YG	SYNC BUFFER
Q504	DTC144EKA	COMPARATOR SW
Q505	2SA1162-YG	VIDEO BUFFER
Q506	DTC144EKA	COMPARATOR SW
Q507	2SA1162-YG	VIDEO BUFFER
Q508	DTC144EKA	COMPARATOR SW
Q509	2SA1162-YG	VIDEO BUFFER
Q510	2SC2712-YG	VIDEO BUFFER
Q511	2SC2712-YG	VIDEO BUFFER
Q512	2SC2712-YG	VIDEO BUFFER
Q515	2SA1162-YG	S ON G BUFFER

BA BOARD IC Block Diagrams

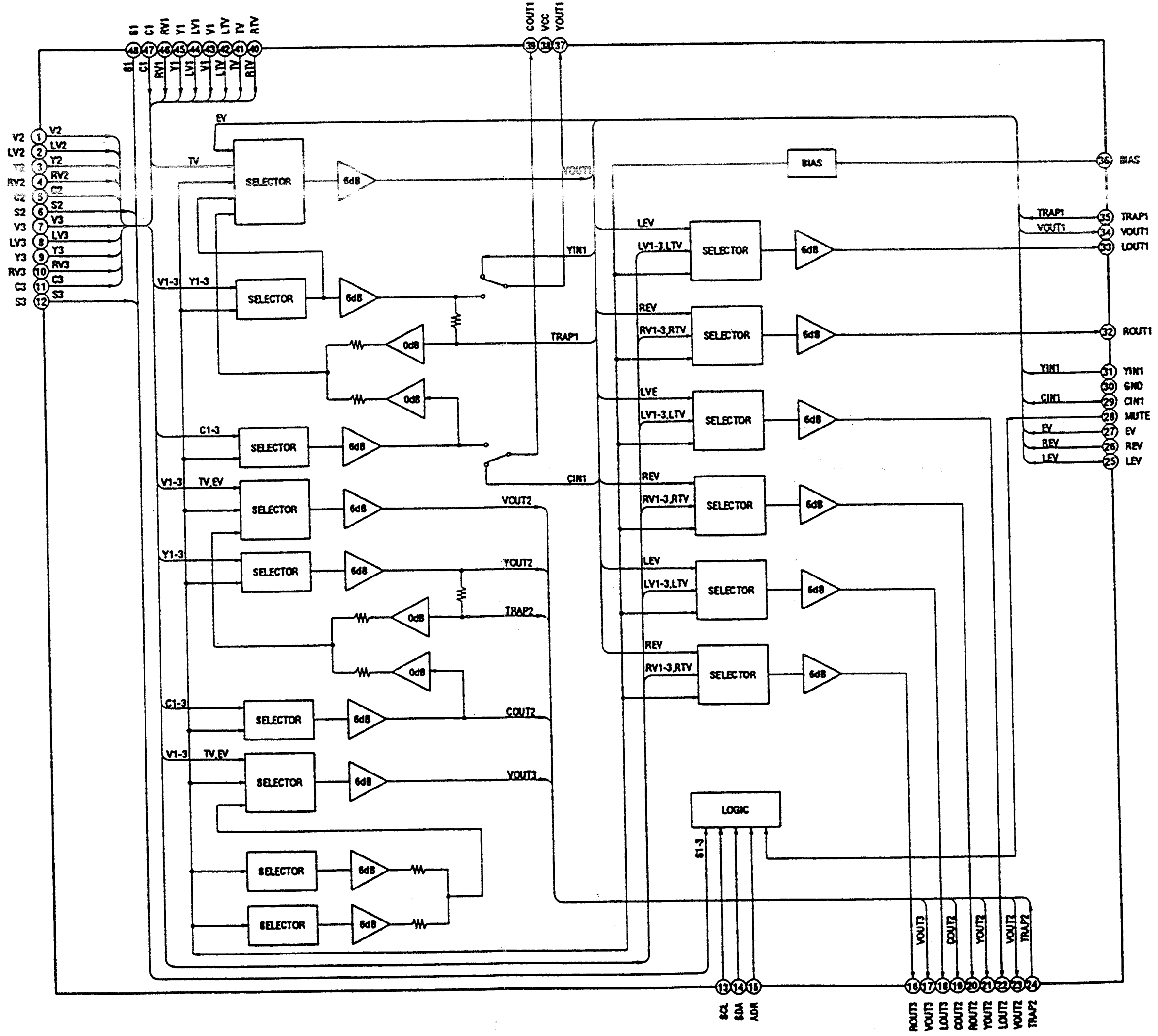
CXA1450M
(IC504—506)


IN1
GND
IN2
VEE
REG
SW
VCC
OUT
GND
CONT

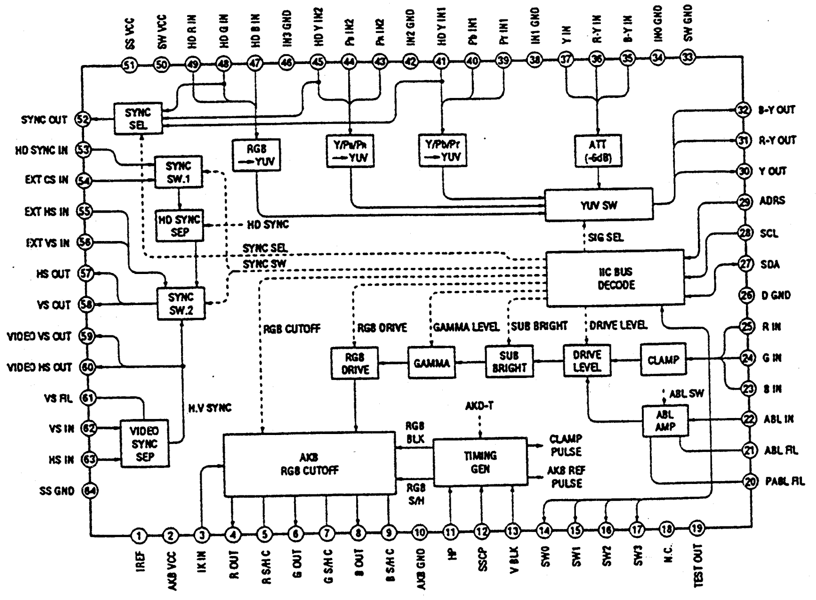
CXA1839Q (IC400)


GND
Y1-IN
RY1-IN
BY1-IN
GND1
VCC1
YUV-SW
VM-MUTE
SP-MUTE
VM-OUT
CLP-C
APED-C
BY2-IN
RY2-IN
Y2-IN
NC
IREF
C-OFF
GND
ROUT
GOUT
BOUT
ABL-REG
ABL-MUTE
YUV-SW
VM Amp Sharpness
NR Clamp D-Picture
IREF
CEC
Hue Color
Axis
Matrix Clamp
Pulse Interface
ABL Amp
D-Color Bright
YS2 YM2
Picture Clamp
YS1 YM1
Amp Clamp
Amp Clamp
I²Bus Osc
AP-MUTE
CLP1
BGP
CBLK
FFTIM
VS
VBD
VBLK
VTIM
SSCP
SCL
SDA
LR2-IN
LG2-IN
LB2-IN
YS2
YM2
VCC2
GND2
LR1-IN
LG1-IN
LB1-IN
YS1
YM1

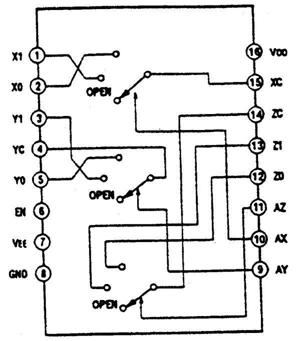
CXA1855Q (IC103)


S1
C1
RV1
Y1
LV1
V1
LTV
TV
RTV
COUT1
VCC
YOUT1
V2
LV2
Y2
RV2
C2
S2
V3
LV3
Y3
RV3
C3
S3
EV
TV
SELECTOR
6dB
BIAS
YIN1
TRAP1
LEV
LV1-3,LTV
SELECTOR
REV
RV1-3,RTV
SELECTOR
LVE
LV1-3,LTV
SELECTOR
REV
RV1-3,RTV
SELECTOR
LEV
LV1-3,LTV
SELECTOR
REV
RV1-3,RTV
SELECTOR
0dB
C1-3
SELECTOR
CIN1
V1-3 TV,EV
SELECTOR
VOUT2
Y1-3
SELECTOR
YOUT2
TRAP2
C1-3
SELECTOR
COUT2
V1-3 TV,EV
SELECTOR
VOUT3
SELECTOR
SELECTOR
LOGIC
S1-3
BIAS
TRAP1
VOUT1
LOUT1
ROUT1
YIN1
GND
CIN1
MUTE
EV
REV
LEV
SCL
SDA
ADR
ROUT3
VOUT3
LOUT3
COUT2
ROUT2
YOUT2
LOUT2
VOUT2
TRAP2

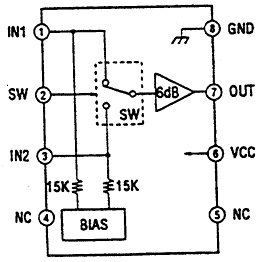
CXA2011Q (IC300)


SS VCC
SW VCC
HD R IN
HD G IN
HD B IN
HD GND
HD Y IN2
Pr IN2
Pb IN2
IN2 GND
HD Y IN1
Pb IN1
Pr IN1
IN1 GND
Y IN
R-Y IN
B-Y IN
IN0 GND
SW GND
SYNC OUT
HD SYNC IN
EXT CS IN
EXT HS IN
EXT VS IN
HS OUT
VS OUT
VIDEO VS OUT
VIDEO HS OUT
VS FIL
VS IN
HS IN
SS GND
SYNC SEL
SYNC SW.1
HD SYNC SEP
SYNC SW.2
RGB →YUV
Y/Pb/Pr →YUV
Y/Pb/Pr →YUV
ATT (-6dB)
YUV SW
HD SYNC
SYNC SEL
SYNC SW
SIG SEL
IIC BUS DECODE
RGB CUTOFF
RGB DRIVE
GAMMA LEVEL
SUB BRIGHT
DRIVE LEVEL
RGB DRIVE
GAMMA
SUB BRIGHT
DRIVE LEVEL
CLAMP
ABL SW
ABL AMP
H.V SYNC
AKD-T
VIDEO SYNC SEP
AKB RGB CUTOFF
RGB BLK
RGB S/H
TIMING GEN
CLAMP PULSE
AKB REF PULSE
B-Y OUT
R-Y OUT
Y OUT
ADRS
SCL
SDA
D GND
R IN
G IN
B IN
ABL IN
ABL FIL
PABL FIL
IREF
AKB VCC
IK IN
R OUT
R S/H C
G OUT
G S/H C
B OUT
B S/H C
AKB GND
HP
SSCP
V BLK
SWO
SW1
SW2
SW3
N.C.
TEST OUT

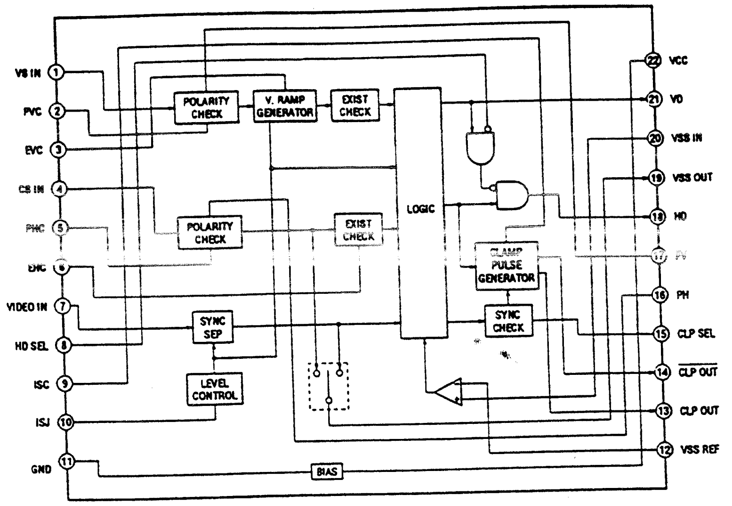
MC74HC4053F (IC104, 503)


X1
X0
Y1
YC
Y0
EN
VEE
GND
OPEN
OPEN
OPEN
VDD
XC
ZC
Z1
Z0
AZ
AX
AY

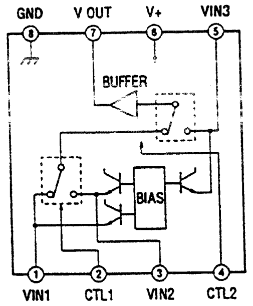
MM1112XFF (IC202, 204)


IN1
SW
IN2
NC
6dB
SW
15K
15K
BIAS
GND
OUT
VCC
NC

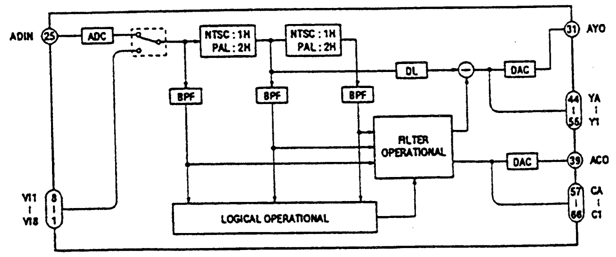
CXA2016S (IC500)


VB IN
PVC
EVC
CS IN
PHC
EHC
VIDEO IN
HD SEL
ISC
ISJ
GND
POLARITY CHECK
V. RAMP GENERATOR
EXIST CHECK
POLARITY CHECK
EXIST CHECK
LOGIC
CLAMP PULSE GENERATOR
SYNC CHECK
SYNC SEP
LEVEL CONTROL
BIAS
VCC
VD
VSS IN
VSS OUT
HD
PH
CLP SEL
CLP OUT
CLP OUT
VSS REF

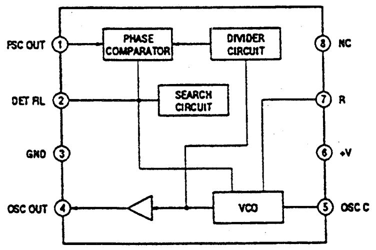
NJM2235M (IC101)


GND
V OUT
V+
VIN3
BUFFER
BIAS
VIN1
CTL1
VIN2
CTL2

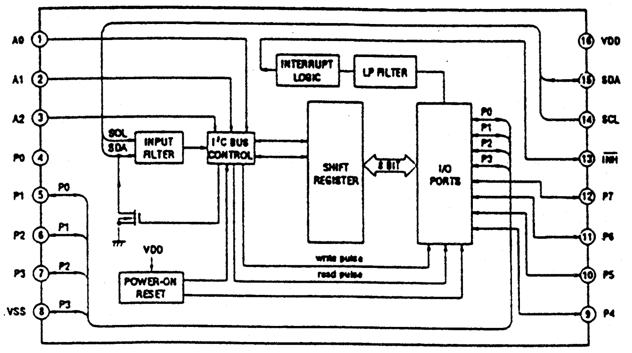
CXD2024AQ (IC102)


ADIN
ADC
NTSC : 1H PAL : 2H
NTSC : 1H PAL : 2H
DL
DAC
BPF
BPF
BPF
FILTER OPERATIONAL
DAC
LOGICAL OPERATIONAL
VI1
VI8
AYO
YA
Y1
ACO
CA
C1

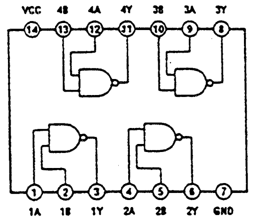
NJM2240M (IC100)


FSC OUT
DET FIL
GND
OSC OUT
PHASE COMPARATOR
DIVIDER CIRCUIT
SEARCH CIRCUIT
VCO
NC
R
+V
OSC C

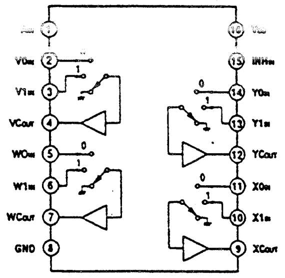
PCF8574T (IC7, 6)


A0
A1
A2
P0
P1
P2
P3
VSS
VDD
SDA
SCL
INH
P7
P6
P5
P4
INTERRUPT LOGIC
LP FILTER
SCL
SDA
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
P0
P1
P2
P3
VDD
POWER-ON RESET
write pulse
read pulse

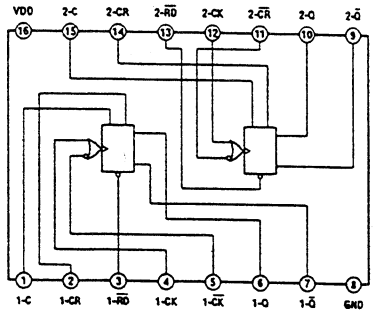
SN74HC00ANS (IC3)


VCC
4B
4A
4Y
3B
3A
3Y
1A
1B
1Y
2A
2B
2Y
GND

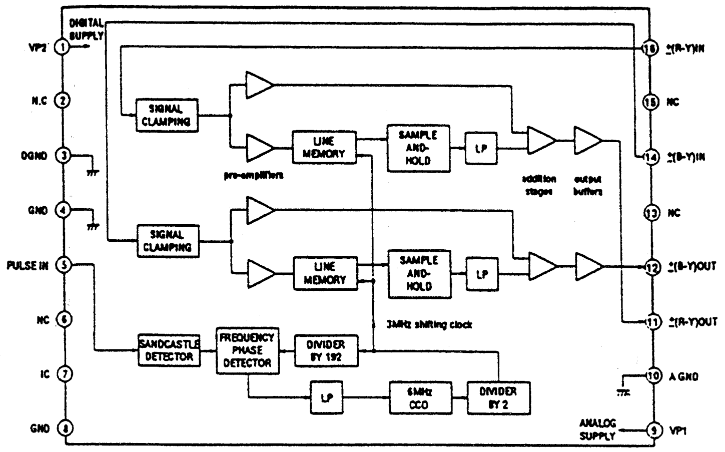
SN74HC157ANS (IC5, 4, 501)


V0IN
V1IN
VCOUT
W0IN
W1IN
WCOUT
GND
INHIN
Y0IN
Y1IN
YCOUT
X0IN
X1IN
XCOUT
0
1

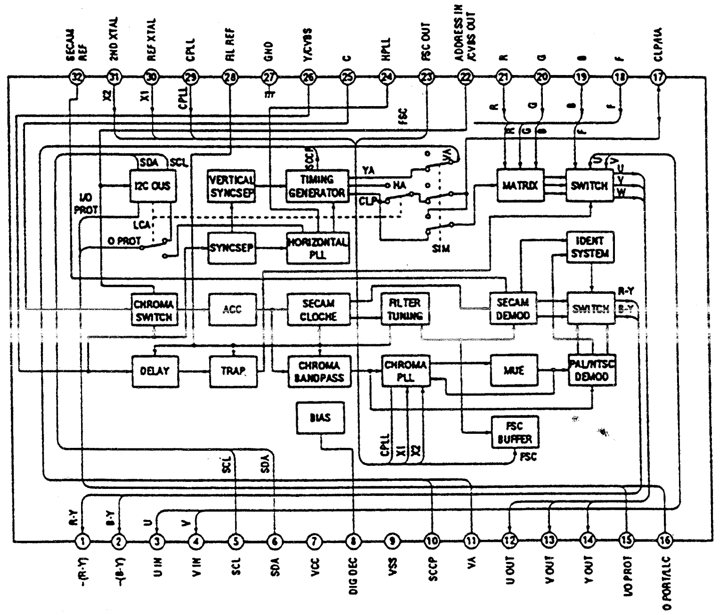
SN74HC4538AF (IC2)


VDD
2-C
2-CR
2-RD
2-CX
2-CR
2-Q
2-Q
1-C
1-CR
1-RD
1-CK
1-CX
1-Q
1-Q
GND

TDA4665T (IC201)

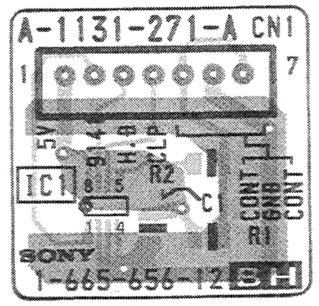

DIGITAL SUPPLY
VP2
N.C
DGND
GND
PULSE IN
NC
IC
GND
±(R-Y)IN
NC
±(B-Y)IN
NC
±(B-Y)OUT
±(R-Y)OUT
A GND
VP1
ANALOG SUPPLY
SIGNAL CLAMPING
LINE MEMORY
SAMPLE AND-HOLD
LP
pre-amplifiers
addition stages
output buffers
3MHz shifting clock
SANDCASTLE DETECTOR
FREQUENCY PHASE DETECTOR
DIVIDER BY 192
6MHz CCO
DIVIDER BY 2

TDA9141-N2C (IC200)


SECAM REF
2ND XTAL
REF XTAL
CPLL
FIL REF
GND
Y/CVBS
C
HPLL
FSC OUT
ADDRESS IN /CVBS OUT
R
G
B
F
CLPAIA
X2
X1
CPLL
FSC
SDA
SCL
I2C BUS
I/O PROT
LCA
O PROT
VERTICAL SYNCSEP
TIMING GENERATOR
SCC
YA
HA
CLP
VA
SIM
SYNCSEP
HORIZONTAL PLL
MATRIX
SWITCH
U
V
W
IDENT SYSTEM
R-Y
B-Y
CHROMA SWITCH
ACC
SECAM CLOCHE
FILTER TUNING
SECAM DEMOD
DELAY
TRAP
CHROMA BANDPASS
CHROMA PLL
MUE
PAL/NTSC DEMOD
BIAS
FSC BUFFER
FSC
-(R-Y)
-(B-Y)
U IN
V IN
SCL
SDA
VCC
DIG DEC
VSS
SCCP
VA
U OUT
V OUT
Y OUT
I/O PROT
O PORT/LLC

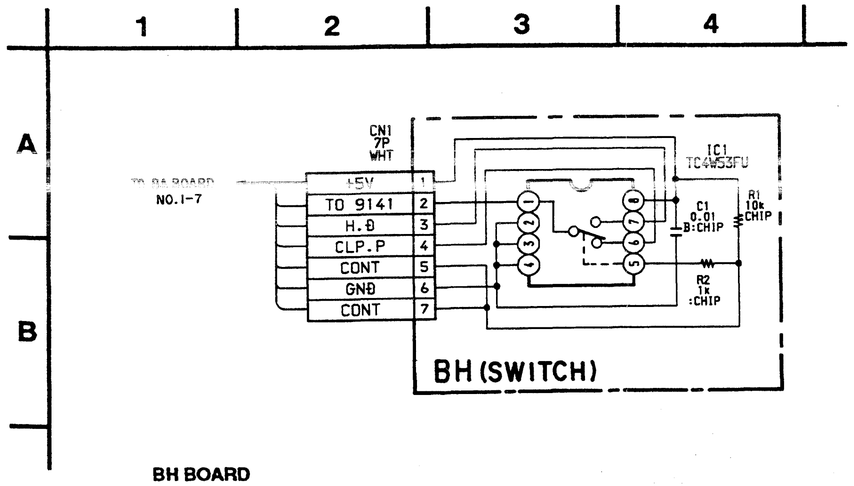
BH (SWITCH) BOARD

— BH BOARD — <Component side>


A-1131-271-A CN1
1
7
IC1
R2
C1
R1
CONT
GND
CONT
SONY
1-665-656-12 BH

▨: Pattern from the side which enables seeing.
■: Pattern of the rear side.

• BH (SWITCH) DIAGRAM


1
2
3
4
A
B
CN1
7P
WHT
TO BA BOARD
NO.1-7
+5V
TO 9141
H.D
CLP.P
CONT
GND
CONT
IC1
TC4W53FU
C1
0.01
B:CHIP
R1
10k
CHIP
R2
1k
:CHIP
BH (SWITCH)

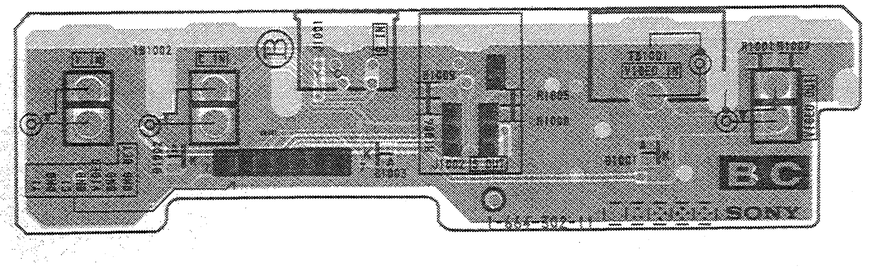
BH BOARD

Function of Semiconductor

IC1	TC4W53FU	SWITCH

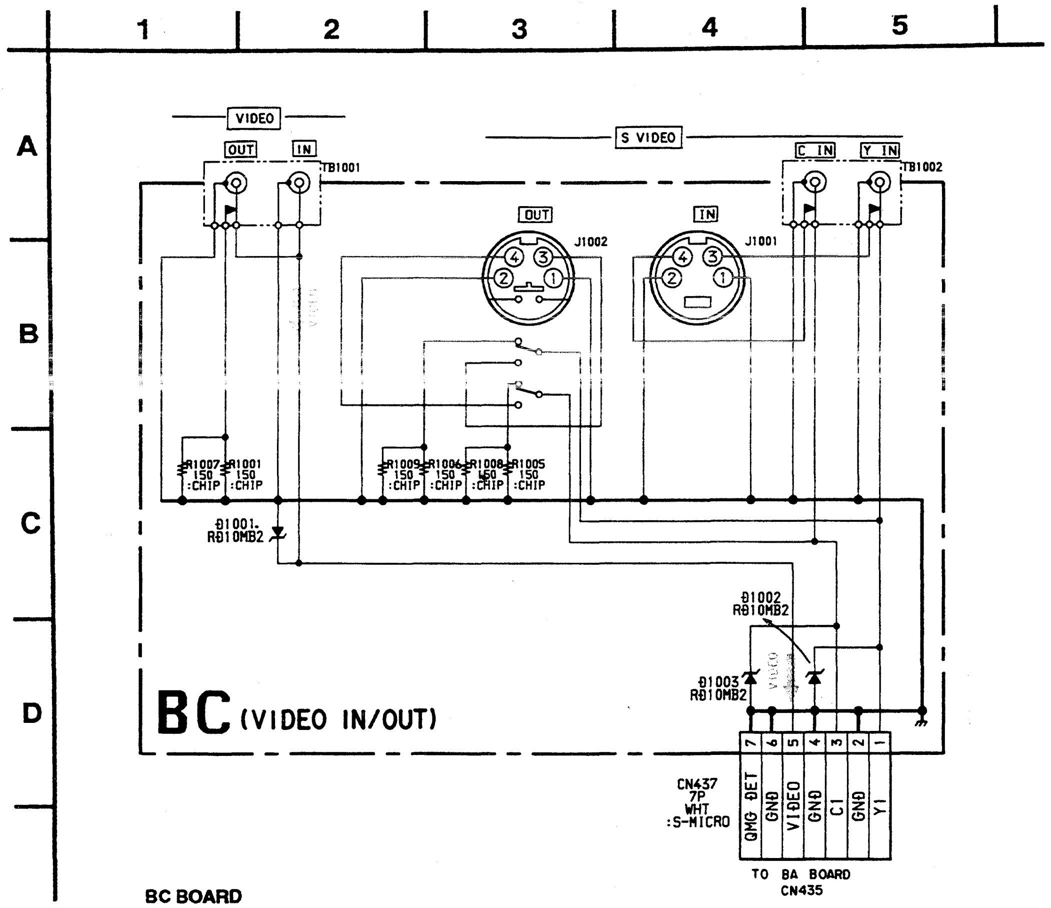
BC (VIDEO IN/OUT) BOARD (VPH-G70Q/G70QM, IFB-G70QMG)

— BC BOARD — <Conductor side>


C IN
Y IN
VIDEO IN
VIDEO OUT
J1001
J1002
R1005
R1008
BC
SONY
1-664-502-11

- ▨: Pattern from the side which enables seeing.
- ■: Pattern of the rear side.

• BH (VIDEO IN/OUT) DIAGRAM (VPH-G70Q/G70QM, IFB-G70QMG)


1
2
3
4
5
A
B
C
D
VIDEO
OUT
IN
TB1001
S VIDEO
C IN
Y IN
TB1002
OUT
J1002
IN
J1001
R1007 150 :CHIP
R1001 150 :CHIP
R1009 150 :CHIP
R1006 150 :CHIP
R1008 560 :CHIP
R1005 150 :CHIP
D1001 RD10MB2
D1002 RD10MB2
D1003 RD10MB2
BC (VIDEO IN/OUT)
CN437
7P
WHT
:S-MICRO
QMG DET
GND
VIDEO
GND
C1
GND
Y1
TO BA BOARD
CN435

BC BOARD

Function of Semiconductor

D1001	RD10M-T1B2	PROTECTOR
D1002	RD10M-T1B2	PROTECTOR
D1003	RD10M-T1B2	PROTECTOR

Schematic Diagram

← BH board

YA BOARD
Semiconductors Location

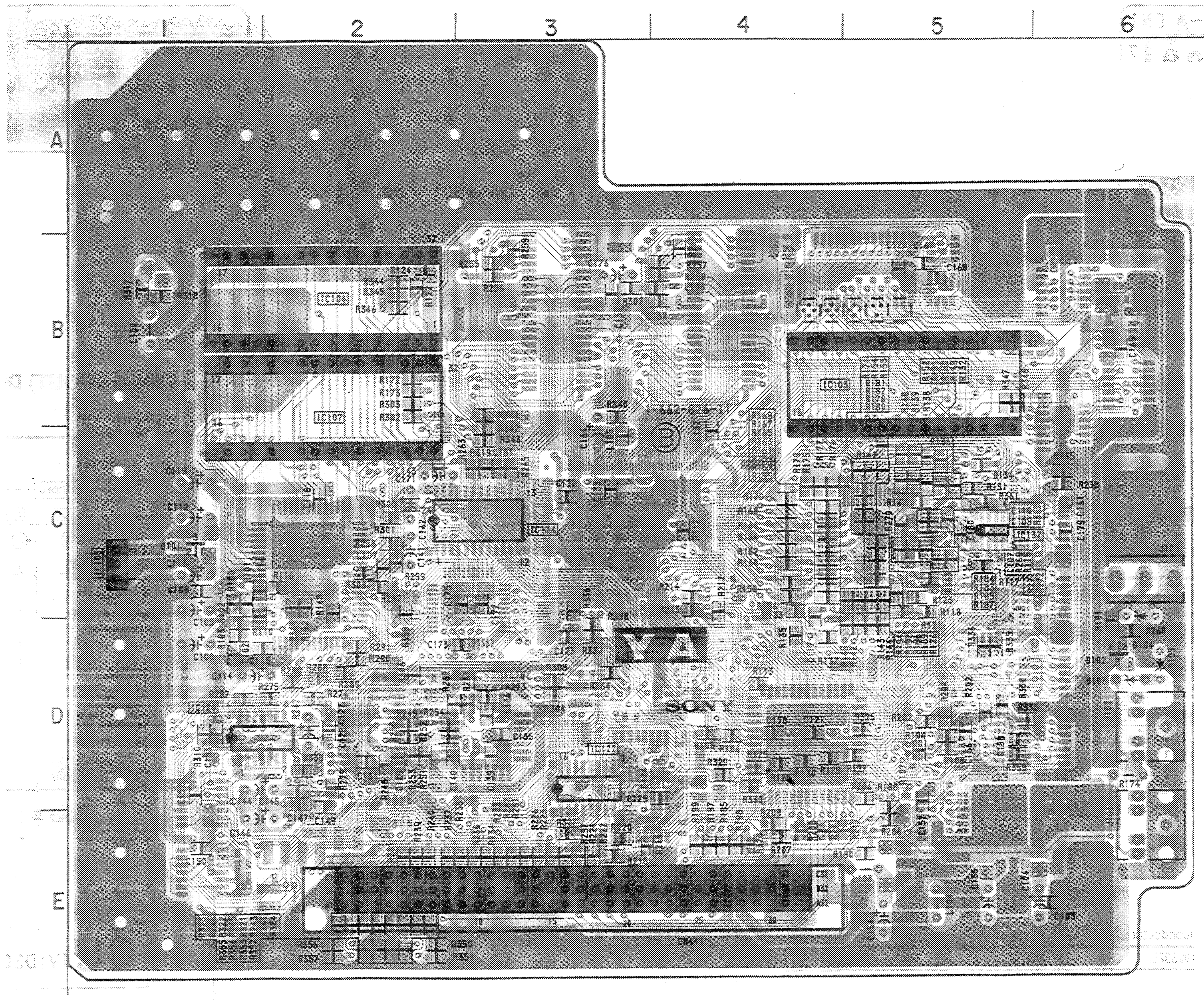
DIODE	
D101	C-1
D102	D-6
D103	D-6
D104	D-6
D105	D-6

IC	
IC100	D-8
IC101	C-11
IC102	C-8
IC103	B-5
IC104	B-2
IC105	C-1
IC106	B-8
IC107	B-2
IC108	D-9
IC109	C-9
IC110	D-9
IC111	E-9
IC112	D-11
IC113	D-10
IC114	C-3
IC115	B-9
IC116	B-10
IC117	E-12
IC118	D-12
IC120	D-1
IC121	D-8
IC122	D-7
IC123	E-8
IC124	C-7
IC125	C-7
IC126	D-7
IC127	D-3
IC128	B-7
IC129	B-7
IC130	B-7
IC131	B-8
IC132	B-8
IC133	B-7
IC134	B-7
IC135	C-10
IC136	D-11
IC137	C-5

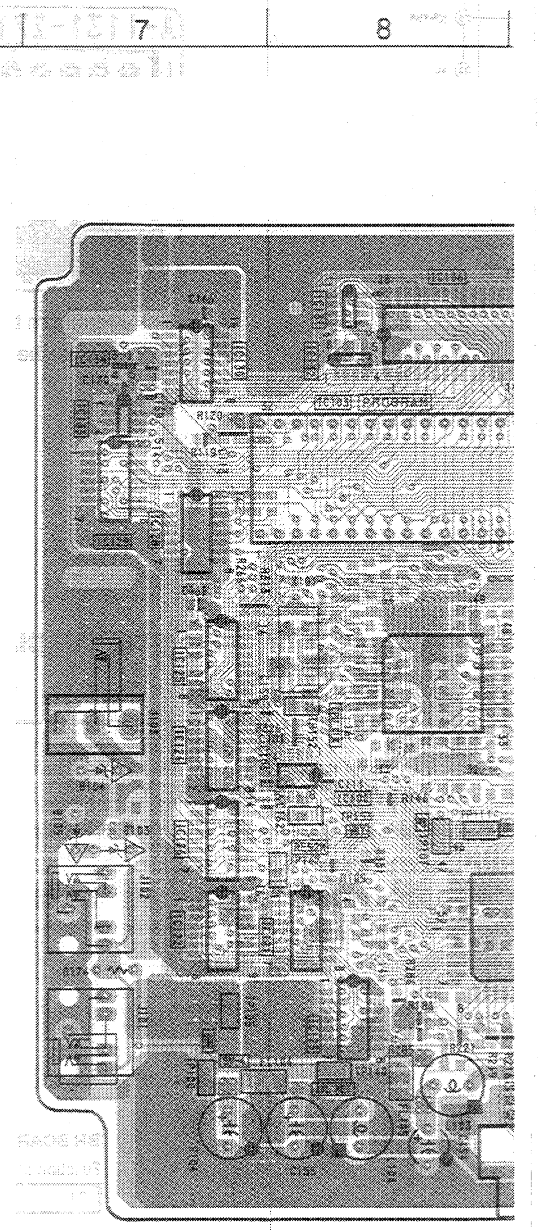
TEST POINT	
TP100	E-7
TP101	C-12
TP102	E-11
TP103	E-11
TP104	E-11
TP105	D-7
TP106	E-11
TP107	D-8
TP108	B-9
TP109	B-9
TP110	C-9
TP111	D-8
TP112	C-9
TP113	C-9
TP114	D-12
TP115	D-9
TP116	D-9
TP117	D-9
TP118	D-9
TP119	D-11
TP120	E-11
TP121	E-11
TP122	E-11
TP123	D-11
TP124	D-10
TP125	D-10
TP126	B-10
TP127	B-10
TP128	B-10
TP129	B-9
TP130	E-12
TP131	D-10
TP132	D-10
TP133	D-10
TP134	D-10
TP135	D-10
TP136	D-10
TP137	E-12
TP138	E-12
TP139	E-12
TP140	E-8
TP141	E-9
TP142	E-10
TP143	E-10
TP144	E-10
TP145	C-11
TP146	D-11
TP147	D-8
TP148	E-12
TP149	D-11
TP150	D-10
TP152	C-8
TP153	D-8

YA (MAIN CPU, OSD CPU, MEMORY CONTROL, SIRCS RECEIVER) BOARD

— YA BOARD — <Conductor side>

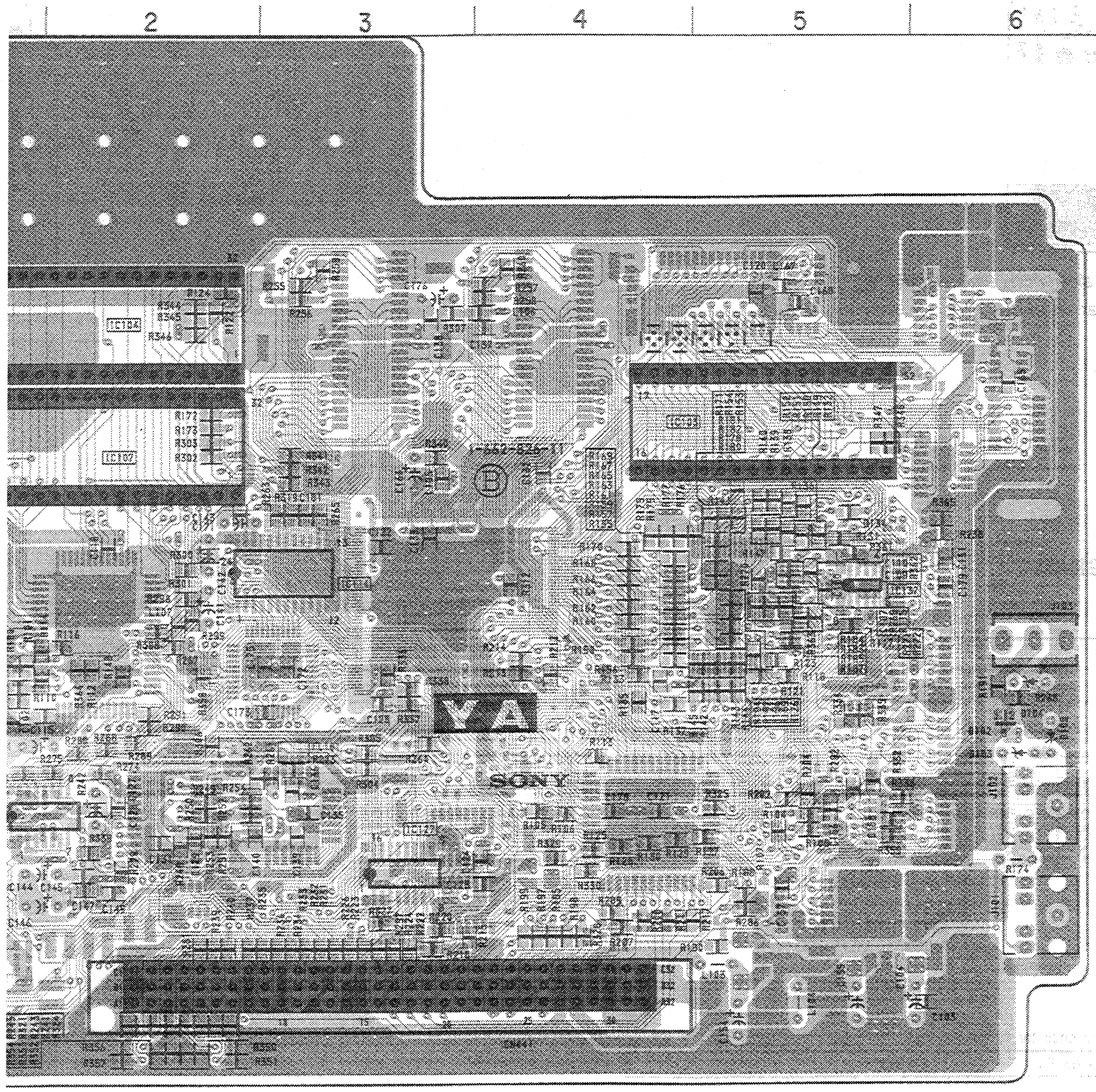


— YA BOARD — <Component side>

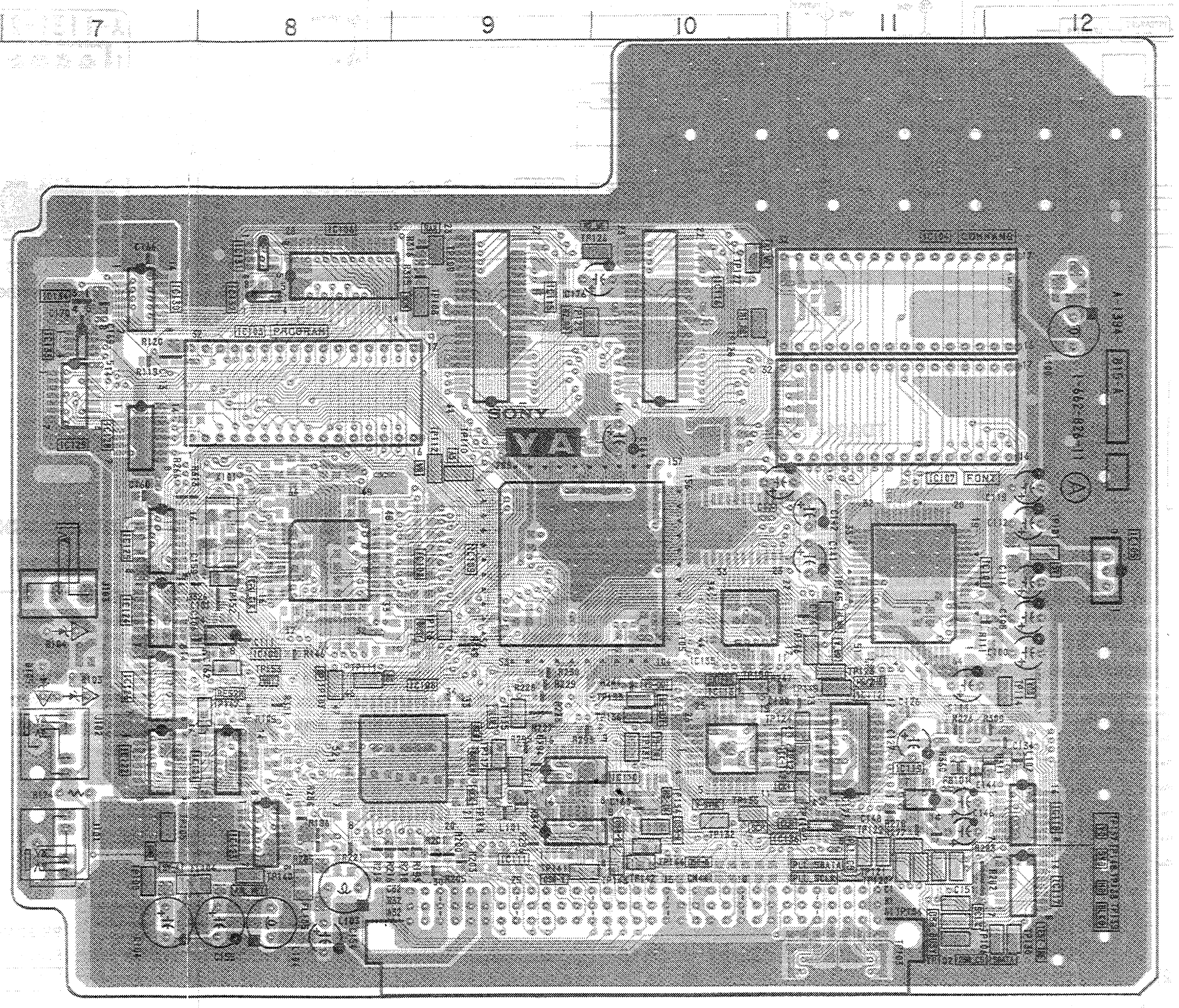


, OSD CPU, MEMORY CONTROL, SIRCS RECEIVER) BOARD

onductor side>

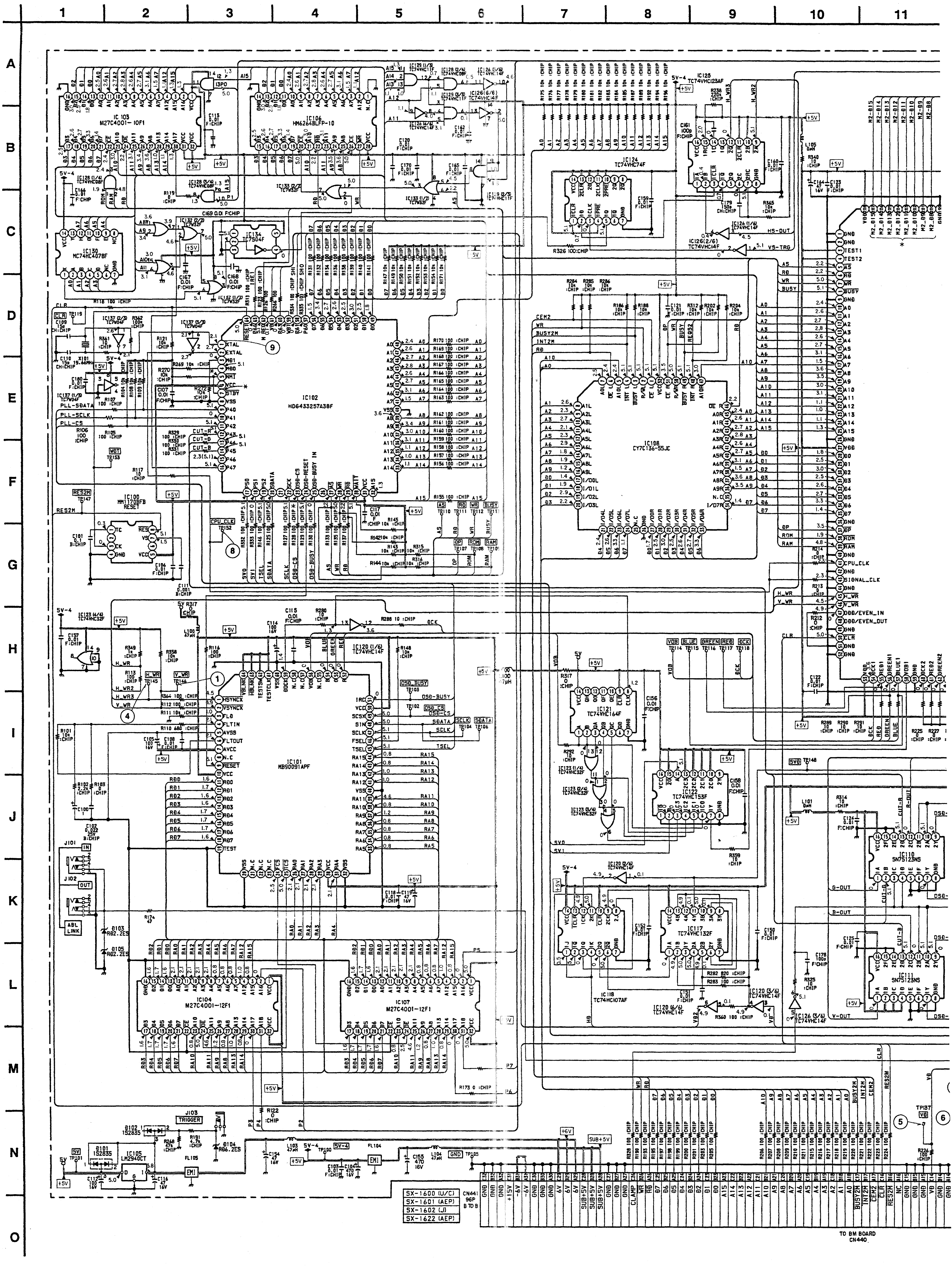

2
3
4
5
6
YA
SONY
CN441

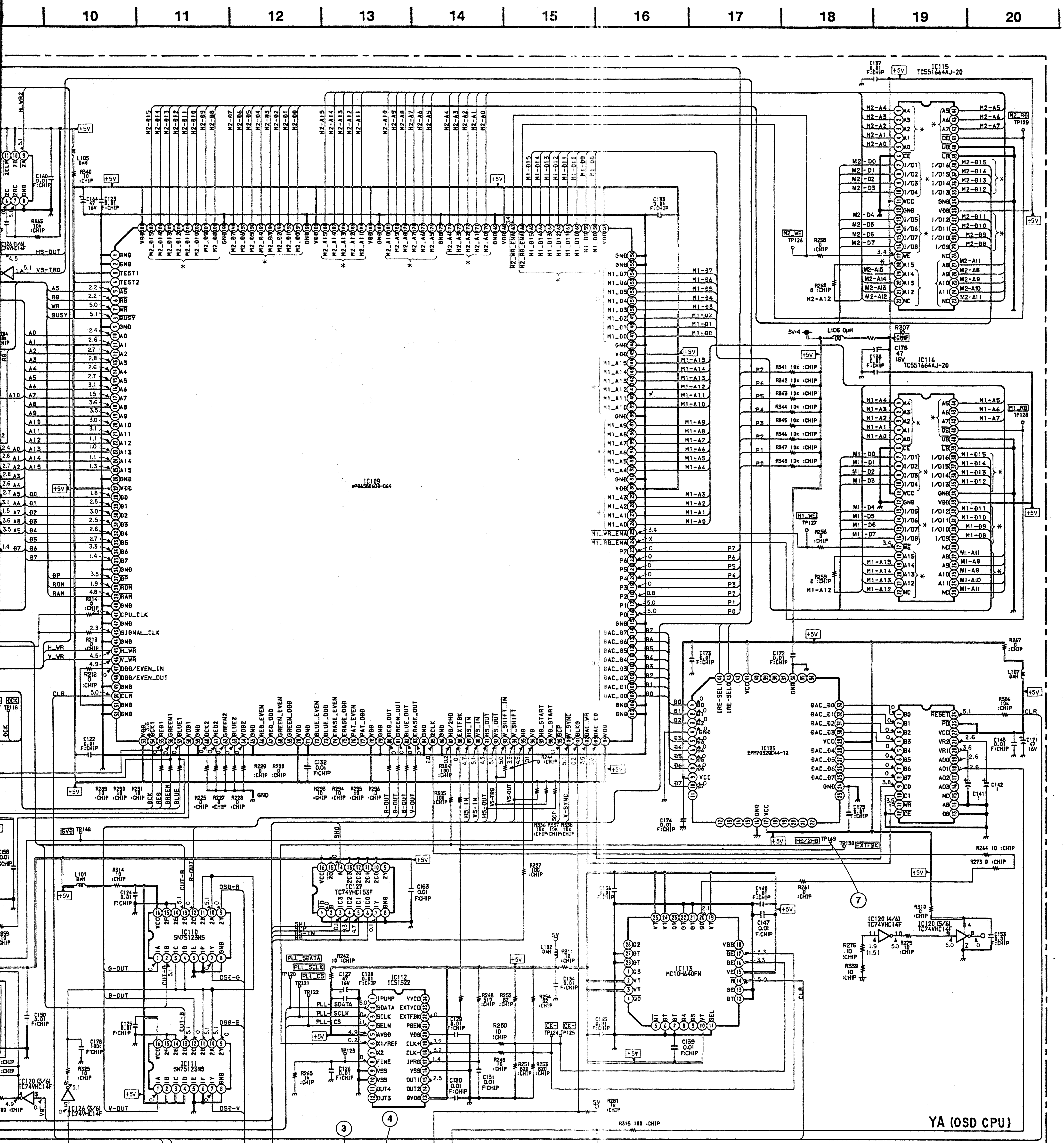
— YA BOARD — <Component side>


7
8
9
10
11
12
IC103 PROGRAM
SONY
YA
IC107 FONT

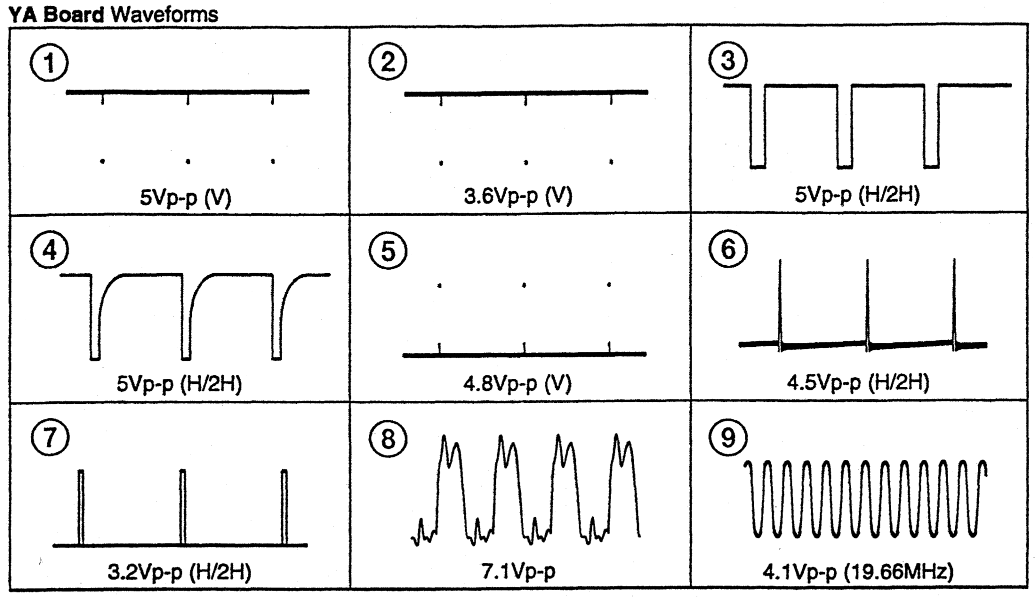
- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

- **YA (OSD CPU) DIAGRAM**
- Refer to page 4-106 for Waveforms
- Refer to page 4-106 for Function of Semiconductor
- Refer to page 4-107 for IC Block Diagram


1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K L M N O
IC103 M27C4001-10F1
IC106 HM6264BLFP-10
IC125 TC74VHC123AF
IC124 TC74VHC74F
IC130 MC74HC4078F
IC134 TC7S04F
IC102 HD6433257A38F
IC108 CY7C136-55JC
IC100 MM1170BFB RESET
IC101 MB90091APF
IC121 TC74VHC164F
IC122 TC74VHC153F
IC110 SN75123NS
IC111 SN75123NS
IC118 TC74HC107AF
IC117 TC74VHC132F
IC104 M27C4001-12F1
IC107 M27C4001-12F1
IC105 LM2940CT
J101 IN
J102 OUT
J103 TRIGGER
ABL LINK
CN441 96P B TO B
SX-1600 (U/C)
SX-1601 (AEP)
SX-1602 (J)
SX-1622 (AEP)
TO BM BOARD CN440


10
11
12
13
14
15
16
17
18
19
20
IC115 TC551664AJ-20
IC116 TC551664AJ-20
IC109
IC135 EPM7032QC44-12
IC113 MC10H640FN
IC112 ICS1522
IC127 TC74VHC153F
IC110 SN75123NS
IC111 SN75123NS
IC120 (4/6) TC74VHC14F
IC120 (5/6) TC74VHC14F
IC120 (3/6) TC74VHC14F
IC126 (1/6) TC74VHC14F
IC126 (3/6) TC74VHC14F
IC136 (1/2) TC7W08F
M2_WE TP126
M2_RD TP129
M1_WE TP127
M1_RD TP128
HD/2HD TP149
EXTFBK TP150
PLL_SDATA
PLL_SCLK
PLL_CS
CK- TP124
CK+ TP125
SVB TP148
VS-OUT TP133
HS-IN TP134
HS-OUT
SCP TP135
VS-IN TP131
V-SYNC TP132
VB TP137
HB TP138
ABL NET TP140
TEST IRE TP130
BLKG TP139
OSD-V TP141
OSD-B TP142
OSD-G TP143
OSD-R TP144
YA (OSD CPU)
TO BM BOARD CN440
1
2
3
4
5
6
7

YA Board Waveforms



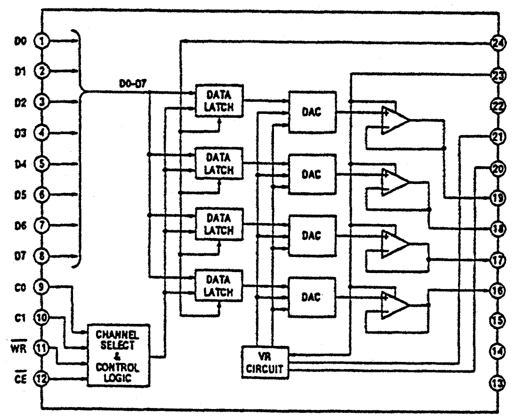
YA BOARD

Function of Semiconductor

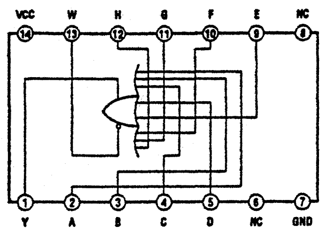
D101	1S2835	DC LEVEL SHIFT
D102	1S2835	PROTECT
D103	RD2.2ES-B2	PROTECT
D104	RD6.2ES-BS	PROTECT
D105	RD2.2ES-B2	PROTECT
IC100	MM1170BFB	RESET SW
IC101	MB90091APF-114	OSDC
IC102	HD6433257A38F	SUB MPU 2
IC103	M27C4001-10F1	PROGRAM ROM
IC104	M27C4001-12F1	PROGRAM ROM
IC105	LM2940CT-5.0	+5V REGULATOR
IC106	HM6264BLFP-10LTZ	RAM
IC107	M27C4001-12F1	PROGRAM ROM
IC108	CY7C136-55JC-TEL	DUAL PORT RAM
IC109	uPD65806GD-064-LML	CHARACTER & TEST PATTERN GENERATOR
IC110	SN75123NS-E05	LINE DRIVER
IC111	SN75123NS-E05	LINE DRIVER
IC112	ICS1522MT	VCO
IC113	MC10H640FNR2	PCEL/TTL CLOCK DRIVER
IC114	MB86022PF-ER	IRE GEN
IC115	TC551664AJ-20	S RAM
IC116	TC551664AJ-20	S RAM
IC117	TC74VHC132F	VD SYNCHRONIZER
IC118	TC74HC107AF	VD SYNCHRONIZER
IC120	TC74VHC14F	VD SYNCHRONIZER
IC121	TC74VHC164F	SHADE ADDER
IC122	TC74VHC153F	SHADE ADDER
IC123	TC74VHC32F	SHADE ADDER
IC124	TC74VHC74F	ODD/EVEN DETECTOR
IC125	TC74VHC123F	ODD/EVEN DETECTOR
IC126	TC74VHC14F	ODD/EVEN DETECTOR
IC127	TC74VHC153F	HD SYNC SELECTOR
IC128	TC74VHC08F	ADDRESS DECODER
IC129	TC74VHC11F	ADDRESS DECODER
IC130	MC74HC4078FEL	ADDRESS DECODER
IC131	TC7W32F	ADDRESS DECODER
IC132	TC7W32F	ADDRESS DECODER
IC133	TC7W32F	ADDRESS DECODER
IC134	TC7S04F	ADDRESS DECODER
IC135	EPM7032QC44-12-IRE	IRE DECODER
IC136	TC7W08F	BUFFER
IC137	TC7W04F	BUFFER

YA BOARD IC Block Diagrams

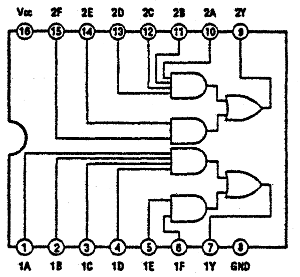
MB86022PF (IC114)


D0
D1
D2
D3
D4
D5
D6
D7
C0
C1
WR
CE
D0-D7
DATA LATCH
DAC
CHANNEL SELECT & CONTROL LOGIC
VR CIRCUIT
RESET
PD
VDD
VR2
VR1
AD0
AD1
AD2
AD3
NC
AGND
DGND

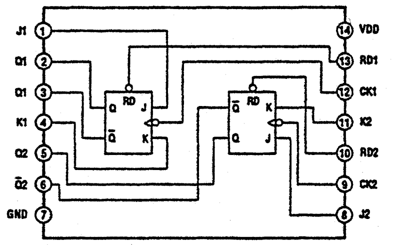
MC74HC4078F (IC130)


VCC
W
H
G
F
E
NC
Y
A
B
C
D
NC
GND

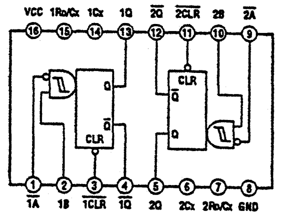
SN75123NS (IC110, 111)


Vcc
2F
2E
2D
2C
2B
2A
2Y
1A
1B
1C
1D
1E
1F
1Y
GND

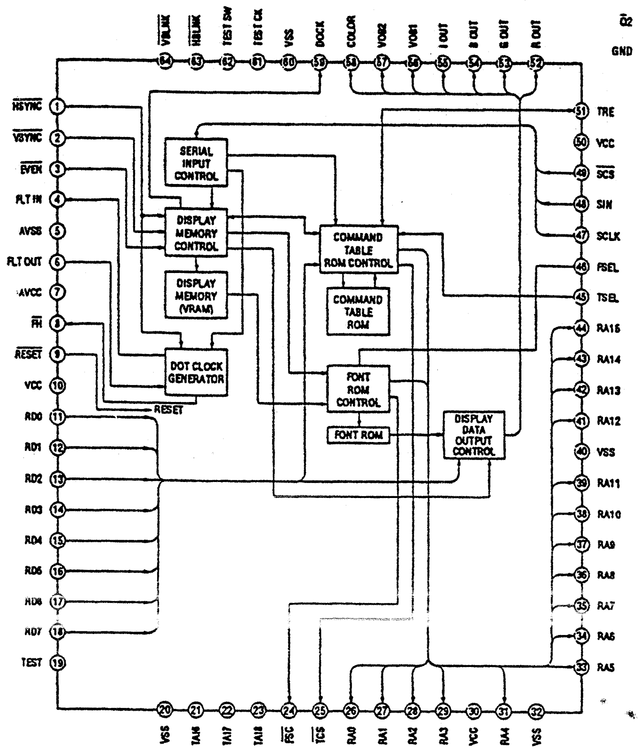
TC74HC107AF (IC118)


J1
Q1
Q1
K1
Q2
Q2
GND
VDD
RD1
CK1
K2
RD2
CK2
J2
RD
Q
J
K

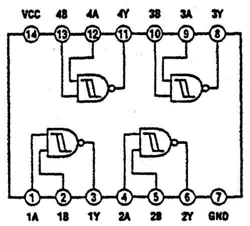
TC74VHC123AF (IC125)


VCC
1Rx/Cx
1Cx
1Q
2Q
2CLR
2B
2A
1A
1B
1CLR
1Q
2Q
2Cx
2Rx/Cx
GND
CLR
Q

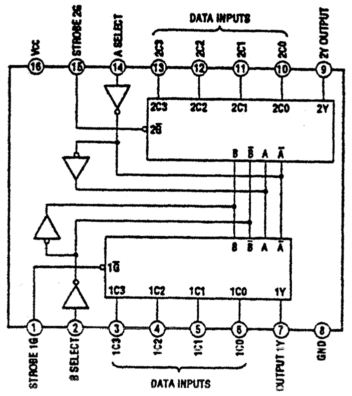
MB90091APF (IC101)


VBLNK
HBLNK
TEST SW
TEST CK
VSS
DOCK
COLOR
VOB2
VOB1
I OUT
B OUT
G OUT
R OUT
HSYNC
VSYNC
EVEN
FLT IN
AVSS
FLT OUT
AVCC
FH
RESET
VCC
RD0
RD1
RD2
RD3
RD4
RD5
RD6
RD7
TEST
SERIAL INPUT CONTROL
DISPLAY MEMORY CONTROL
DISPLAY MEMORY (VRAM)
DOT CLOCK GENERATOR
RESET
COMMAND TABLE ROM CONTROL
COMMAND TABLE ROM
FONT ROM CONTROL
FONT ROM
DISPLAY DATA OUTPUT CONTROL
TRE
VCC
SCS
SIN
SCLK
FSEL
TSEL
RA15
RA14
RA13
RA12
VSS
RA11
RA10
RA9
RA8
RA7
RA6
RA5
VSS
TAI6
TAI7
TAI8
FSC
TCS
RA0
RA1
RA2
RA3
VCC
RA4
VSS

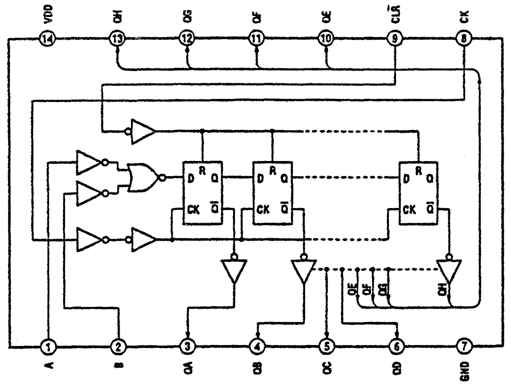
TC74VHC132F (IC117)


VCC
4B
4A
4Y
3B
3A
3Y
1A
1B
1Y
2A
2B
2Y
GND

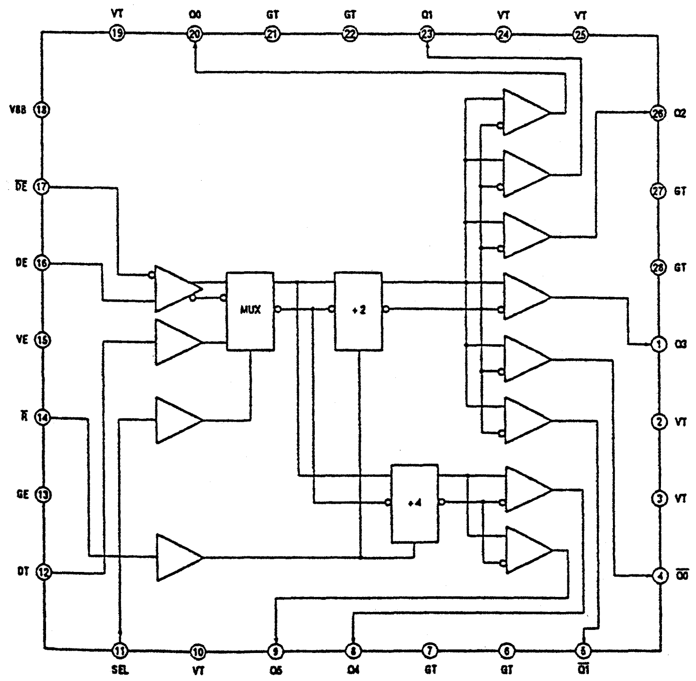
TC74VHC153F (IC122, 127)


VCC
STROBE 2G
A SELECT
DATA INPUTS
2C3
2C2
2C1
2C0
2Y OUTPUT
2G
2Y
B
B
A
A
1G
1C3
1C2
1C1
1C0
1Y
STROBE 1G
B SELECT
DATA INPUTS
OUTPUT 1Y
GND

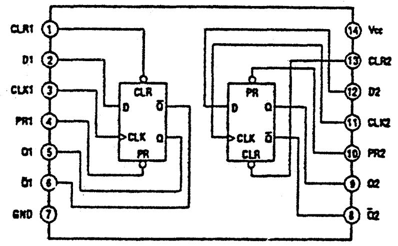
TC74VHC164F (IC121)


VDD
QH
QG
QF
QE
CLR
CK
D
R
Q
CK
Q
QE
QF
QG
QH
A
B
QA
QB
QC
QD
GND

MC10H640FN (IC113)


VT
Q0
GT
GT
Q1
VT
VT
VBB
DE
DE
VE
R
GE
DT
MUX
÷2
÷4
Q2
GT
GT
Q3
VT
VT
Q0
SEL
VT
Q5
Q4
GT
GT
Q1

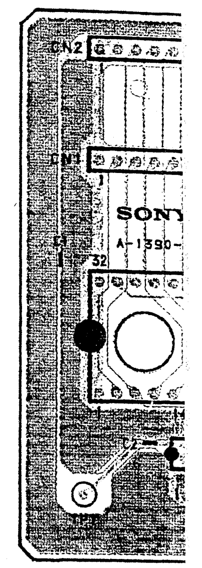
TC74VHC74F (IC124)


CLR1
D1
CLK1
PR1
Q1
Q1
GND
Vcc
CLR2
D2
CLK2
PR2
Q2
Q2
CLR
D
CLK
Q
PR

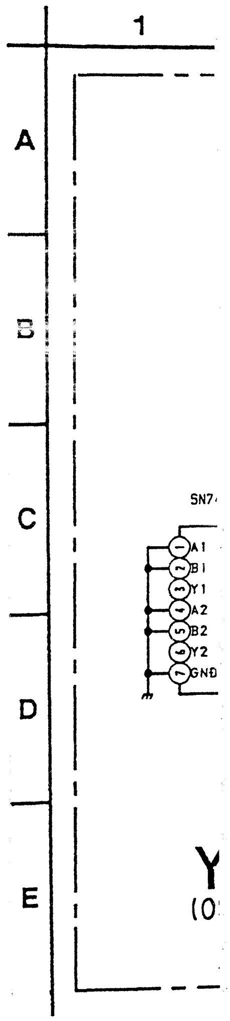
YO

(O

— YO BOAR


CN2
CN1
SONY
A-1390-
32

• YO (OSD RO

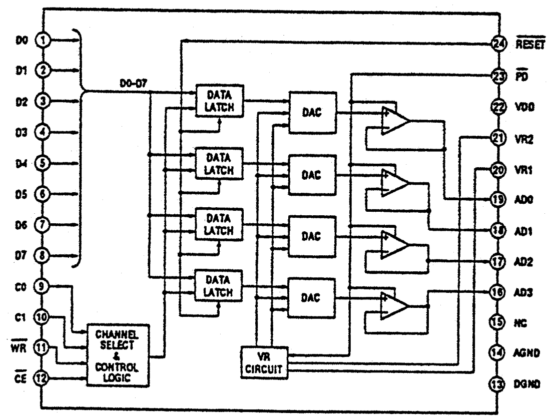

1
A
B
C
D
E
SN7
A1
B1
Y1
A2
B2
Y2
GND
Y
(O

YO BOARD

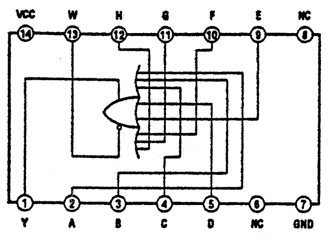
Function of Semi

IC1	M27C
IC2	SN74

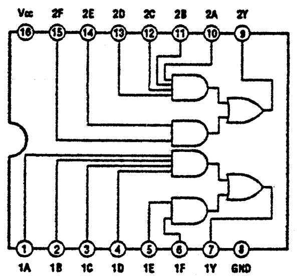
MB86022PF (IC114)


DATA LATCH
DAC
CHANNEL SELECT & CONTROL LOGIC
VR CIRCUIT
RESET
PD
VDD
VR2
VR1
AD0
AD1
AD2
AD3
NC
AGND
DGND

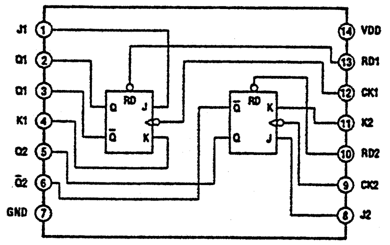
MC74HC4078F (IC130)



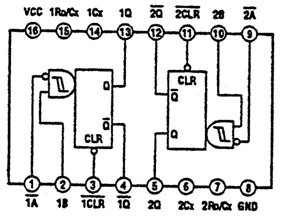
SN75123NS (IC110, 111)



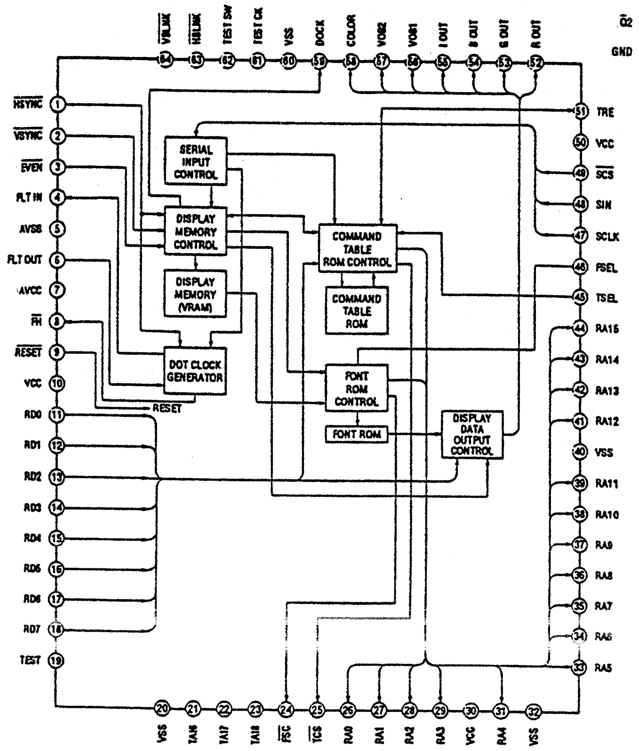
TC74HC107AF (IC118)



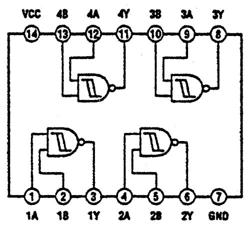
TC74VHC123AF (IC125)



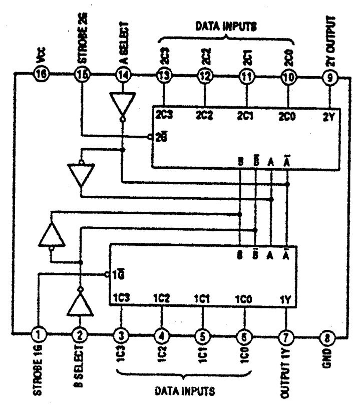
MB90091APF (IC101)


SERIAL INPUT CONTROL
DISPLAY MEMORY CONTROL
DISPLAY MEMORY (VRAM)
DOT CLOCK GENERATOR
COMMAND TABLE ROM CONTROL
COMMAND TABLE ROM
FONT ROM CONTROL
FONT ROM
DISPLAY DATA OUTPUT CONTROL

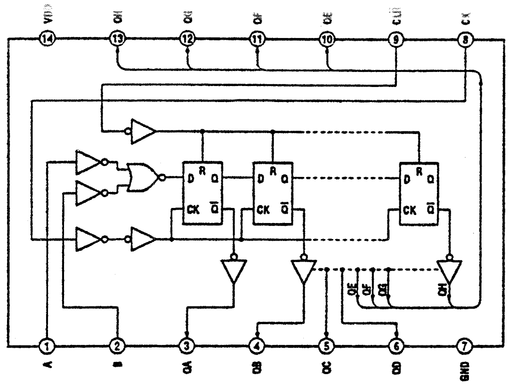
TC74VHC132F (IC117)



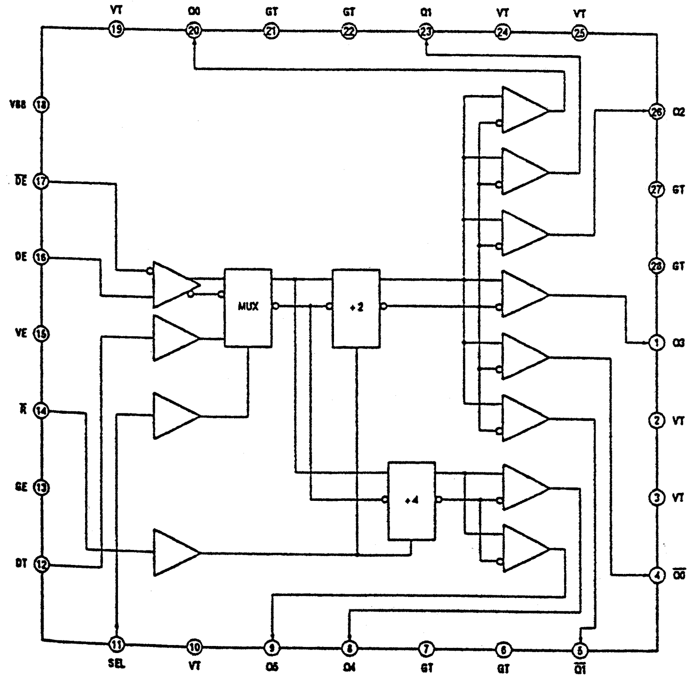
TC74VHC153F (IC122, 127)


DATA INPUTS
STROBE 2G
A SELECT
2Y OUTPUT
STROBE 1G
B SELECT
OUTPUT 1Y
GND

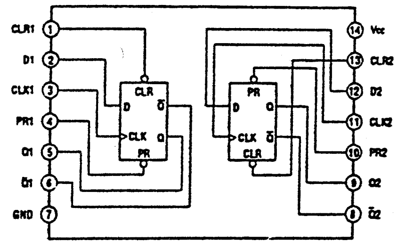
TC74VHC164F (IC121)



MC10H640FN (IC113)

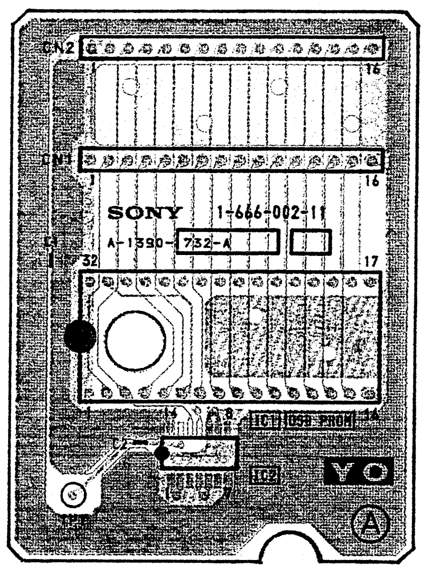


TC74VHC74F (IC124)



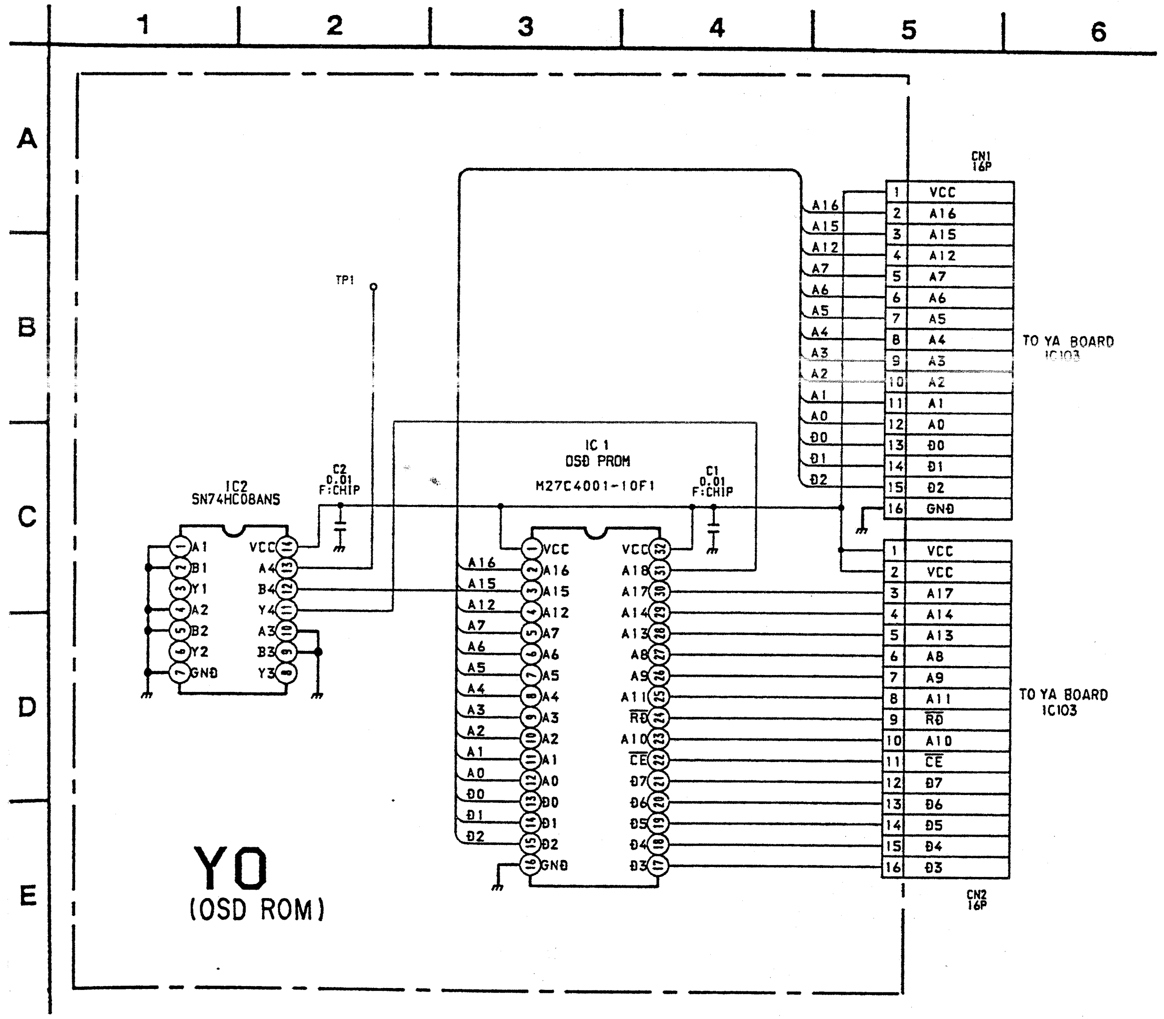
YO (OSD ROM) BOARD

— YO BOARD — <Component side>


CN2
CN1
SONY 1-666-002-11
A-1390-732-A
IC1 OSD PROM
IC2
YO

- ⬚ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

• YO (OSD ROM) DIAGRAM


IC 1
OSD PROM
M27C4001-10F1
IC2
SN74HC08ANS
C1 0.01 F:CHIP
C2 0.01 F:CHIP
TP1
CN1 16P
TO YA BOARD IC103
CN2 16P
TO YA BOARD IC103
YO
(OSD ROM)

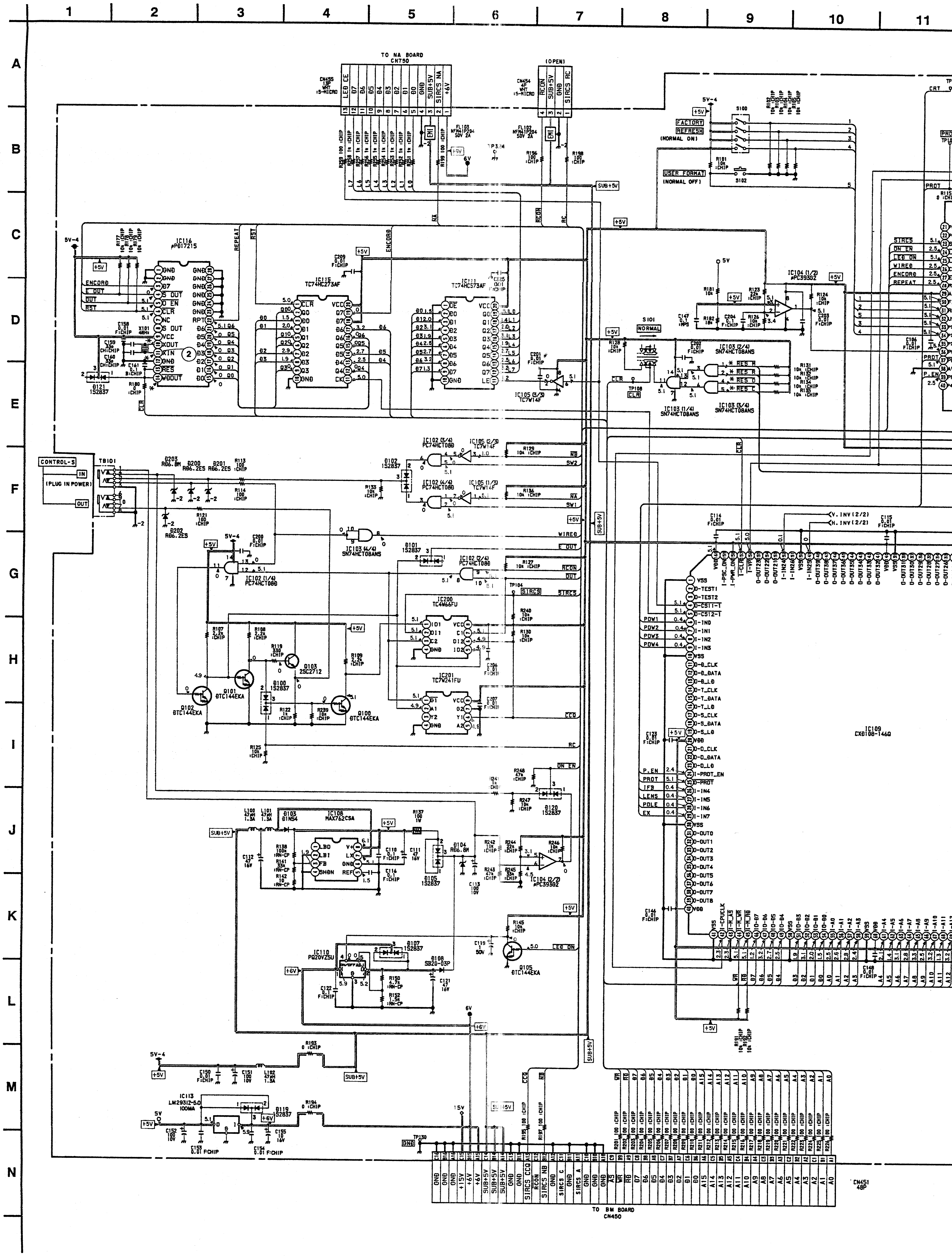
YO BOARD

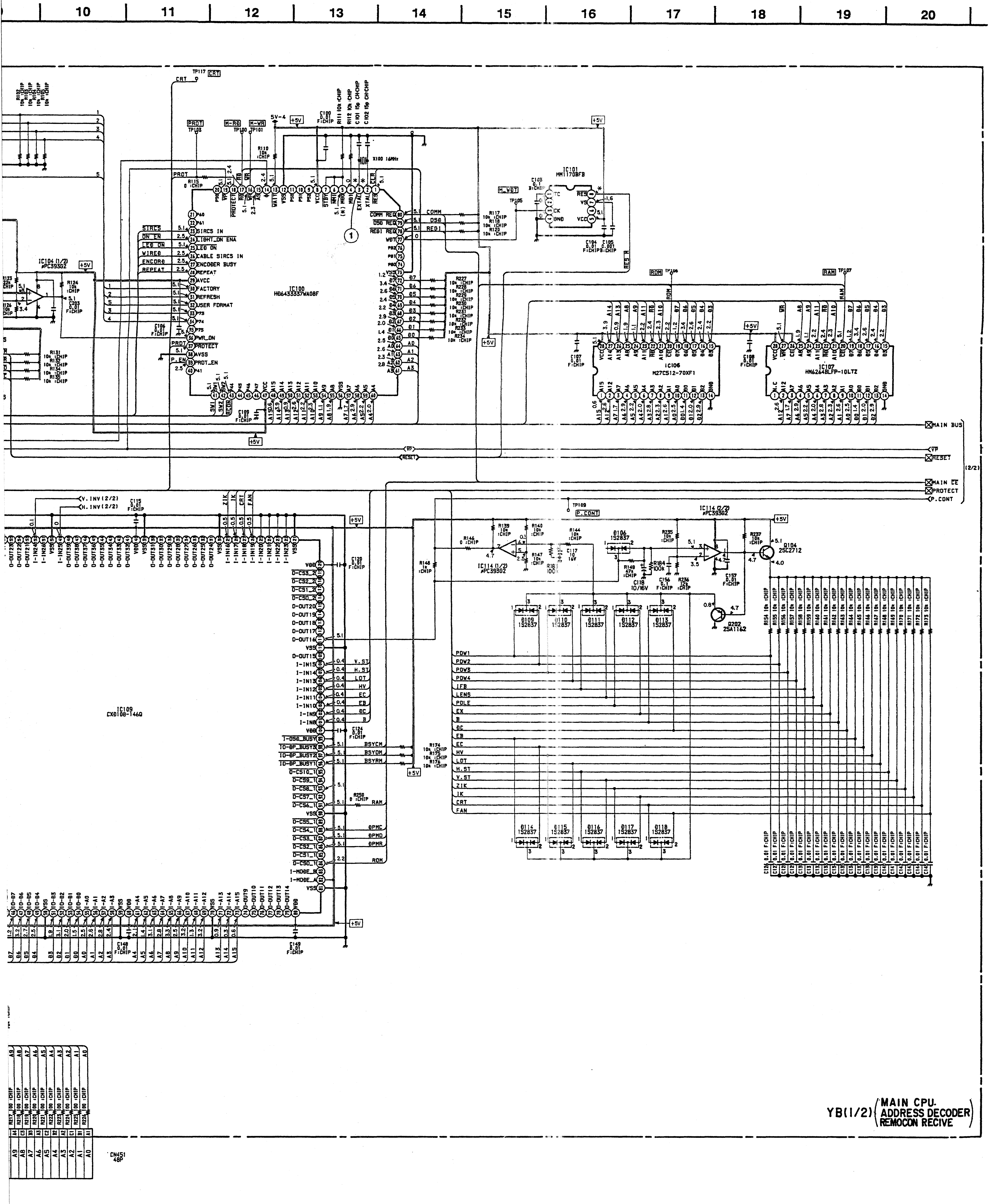
Function of Semiconductor

IC1	M27C4001-10F1	OSD PROM
IC2	SN74HC08ANS	SWITCH

• YB (1/2) (MAIN CPU, ADDRESS DECODER, REMOTE COMMANDER RECIVER) DIAGRAM

- Refer to page 4-115 for Printed Wiring Board
- Refer to page 4-118 for Waveforms
- Refer to page 4-119 for Function of Semiconductor
- Refer to page 4-120 for IC Block Diagram


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
TO NA BOARD CN750
CN455 13P WHT :S-MICRO
CN454 4P WHT :S-MICRO
(OPEN)
LED CE
D7
D6
D5
D4
D3
D2
D1
D0
GND
SUB+5V
SIRCS NA
+6V
RCON
SUB+5V
GND
SIRCS RC
FL103 NFM41P204 50V 2A
FL102 NFM41P204 50V 2A
S100
FACTORY
REFRESH
(NORMAL ON)
USER FORMAT
(NORMAL OFF)
S102
SUB+5V
IC116 μPD17215
REPEAT
RST
ENCORD
IC115 TC74HC273AF
IC111 TC74HC573AF
IC104 (1/2) μPC393G2
IC103 (2/4) SN74HCT08ANS
IC103 (1/4) SN74HCT08ANS
IC103 (3/4) SN74HCT08ANS
IC105 (3/3) TC7W14F
S101
NORMAL
TP108 CLR
RES H
RES R
RES D
RES E
CONTROL-S
IN
(PLUG IN POWER)
OUT
TB101
D203 RD6.8M
D200 RD6.2ES
D201 RD6.2ES
D202 RD6.2ES
IC102 (3/4) PC74HCT08D
IC102 (4/4) PC74HCT08D
IC105 (2/3) TC7W14F
IC105 (1/3) TC7W14F
NB
SW2
NA
SW1
WIRED
E OUT
RCON
OUT
SIRCS
IC103 (4/4) SN74HCT08ANS
D101 1SS837
IC102 (1/4) PC74HCT08D
IC102 (2/4) PC74HCT08D
IC200 TC4W66FU
IC201 TC7W241FU
Q103 2SC2712
Q101 DTC144EKA
Q102 DTC144EKA
Q100 DTC144EKA
CCD
RC
ON EN
D120 1SS837
IC108 MAX762CSA
D103 D1NS4
D104 RD6.8M
D105 1SS837
IC104 (2/2) μPC393G2
IC110 PQ20VZ5U
D107 1SS837
D108 SB20-03P
Q105 DTC144EKA
LED ON
IC113 LM2931Z-5.0 100MA
D119 1SS837
IC109 CXD108-146Q
V.INV(2/2)
H.INV(2/2)
P.EN
PROT
IFB
LENS
POLE
EX
POW1
POW2
POW3
POW4
SIRCS
ON EN
LED ON
WIRED
ENCORD
REPEAT
PROT
P.EN
GND
+15V
+6V
SUB+5V
SIRCS CCD
RCON
SIRCS NB
SIRCS C
SIRCS A
WR
RD
A15
A14
A13
A12
A11
A10
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
TO BM BOARD CN450
CN451 48P
TP130

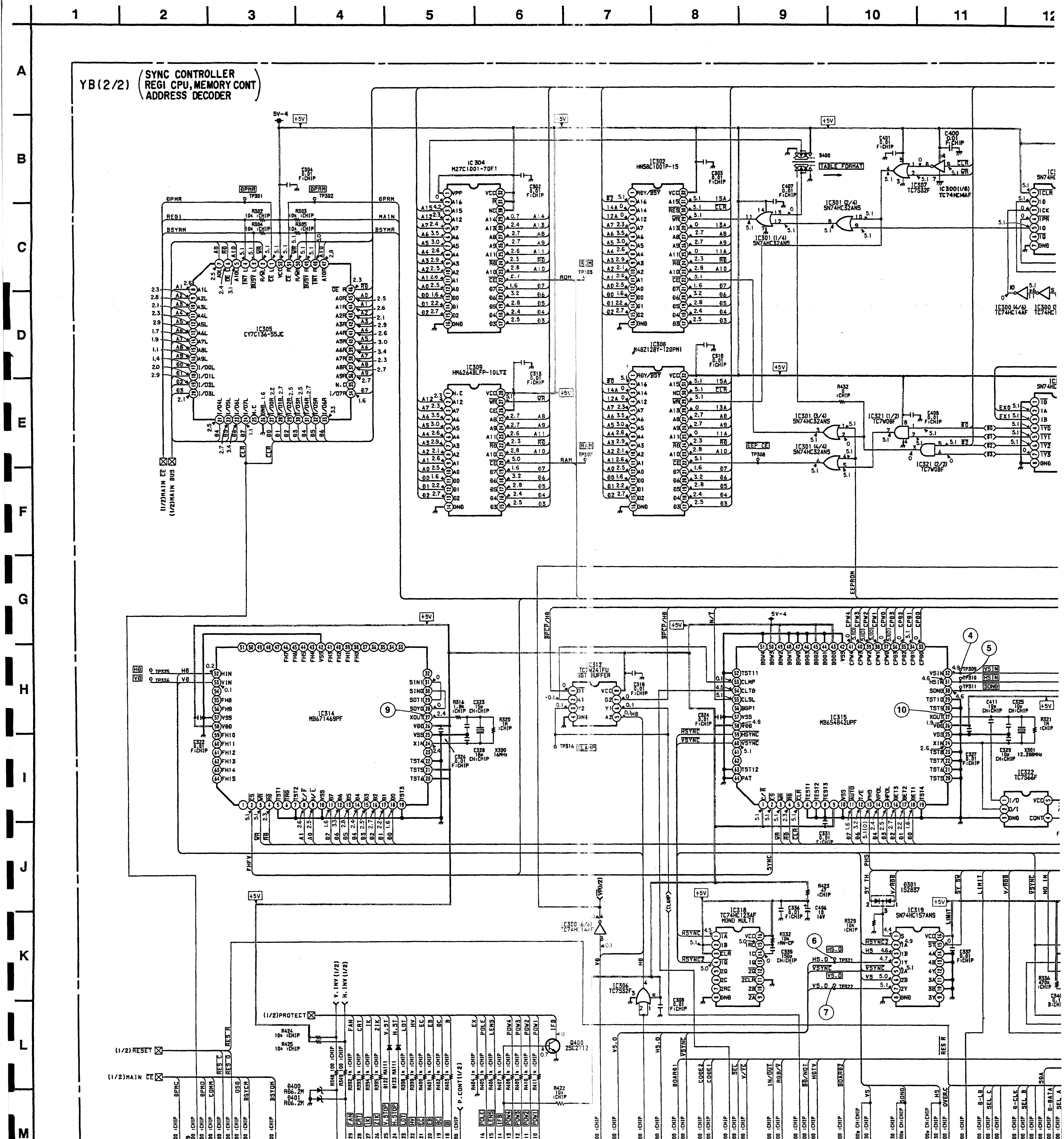

10
11
12
13
14
15
16
17
18
19
20
IC100
H8/6433337WA08F
IC101
MM1170BFB
IC104 (1/2)
μPC39362
IC106
M27C512-70XF1
IC107
HM6264BLFP-10LTZ
IC109
CXD108-146Q
IC114 (1/2)
μPC39362
IC114 (2/2)
μPC39362
X100 16MHz
Q104
2SC2712
Q202
2SA1162
D106
1S2837
D109
D110
D111
D112
D113
D114
D115
D116
D117
D118
1S2837
TP117 CRT
PROT
TP103
M-RD
TP100
M-WR
TP101
M_WDT
TP105
ROM
TP106
RAM
TP107
P.CONT
TP109
SIRCS
ON_EN
LED_ON
WIRED
ENCORD
REPEAT
SIRCS IN
LIGHT_ON ENA
LED ON
CABLE SIRCS IN
ENCODER BUSY
REPEAT
AVCC
FACTORY
REFRESH
USER FORMAT
PWR_ON
PROTECT
PROT_EN
COMM
OSD
REGI
MAIN BUS
VP
RESET
(2/2)
MAIN CE
PROTECT
P.CONT
V.INV (2/2)
H.INV (2/2)
PDW1
PDW2
PDW3
PDW4
IFB
LENS
POLE
EX
B
BC
EB
EC
HV
LOT
H.ST
V.ST
ZIK
IK
CRT
FAN
BSYCM
BSYOM
BSYRM
RAM
OPMC
OPMD
OPMR
ROM
+5V
CN451
48P
①

YB(1/2) (MAIN CPU ADDRESS DECODER REMOCON RECIVE)

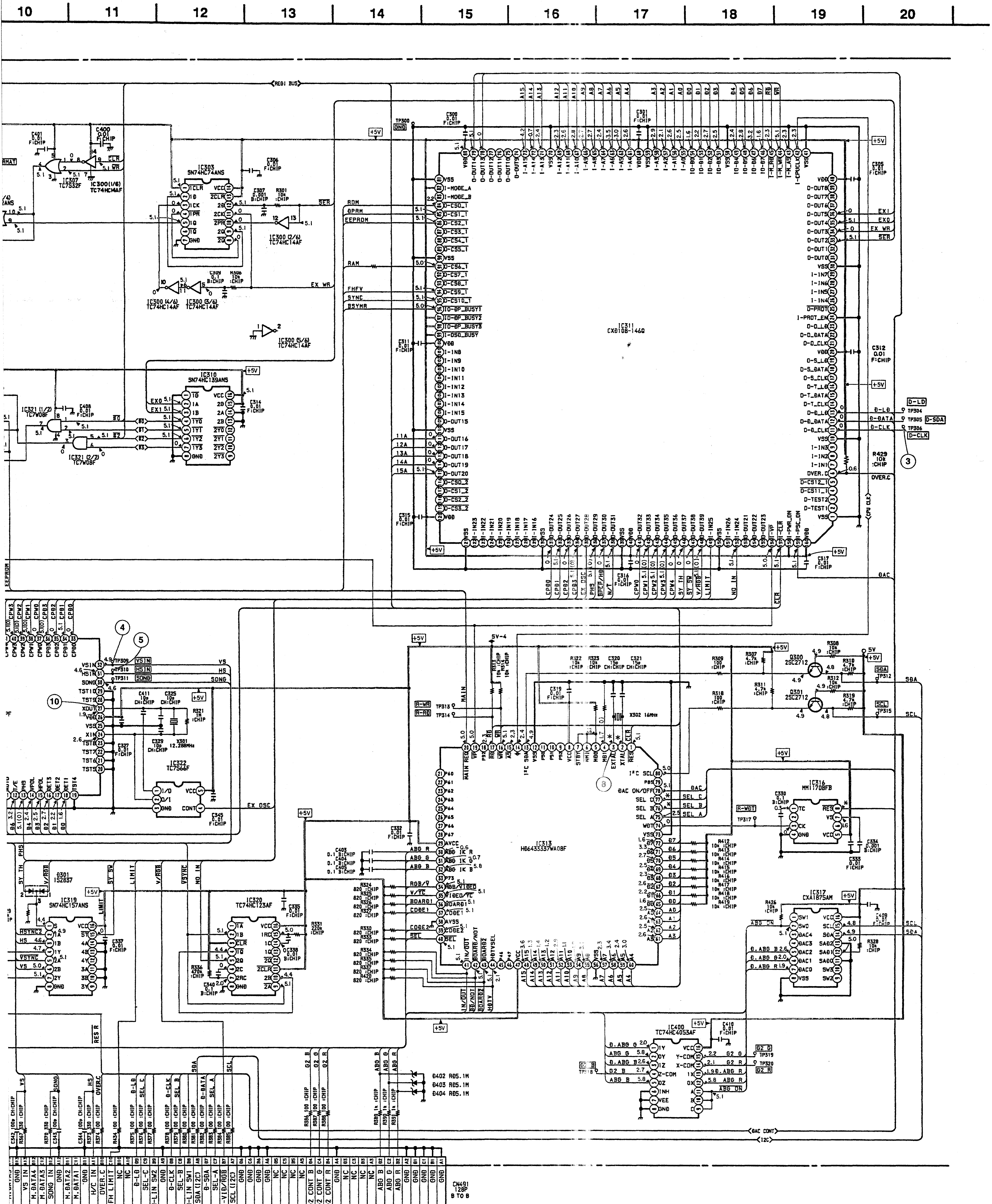
Schematic Diagram

YB (2/2) board ➡

- **YB (2/2) (SYNC CONTROLLER, REGI CPU, ADDRESS DECODER, MEMORY CONTROL) DIAGRAM**
- Refer to page 4-118 for Waveforms
- Refer to page 4-119 for Function of Semiconductor
- Refer to page 4-120 for IC Block Diagram



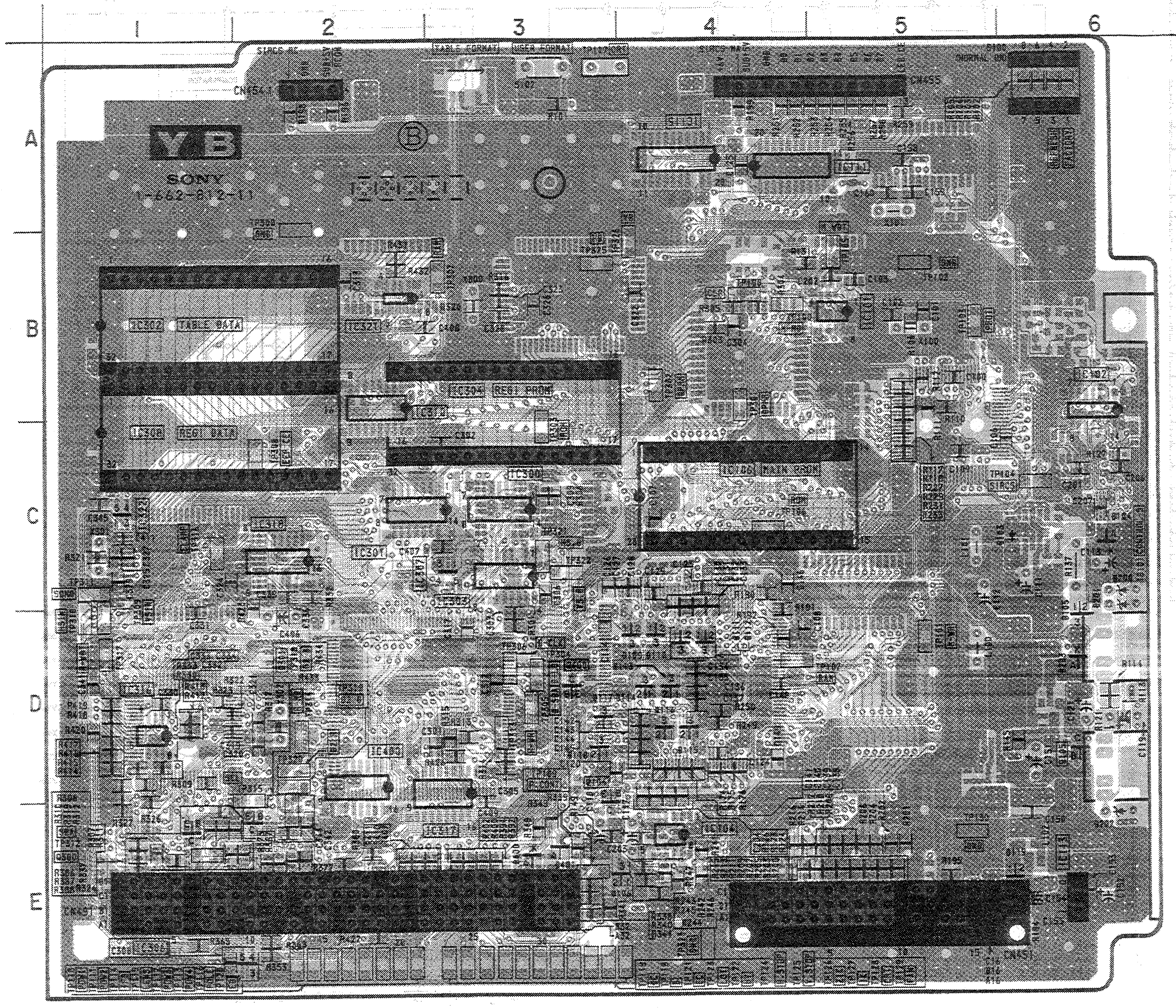
YB(2/2) (SYNC CONTROLLER REGI CPU, MEMORY CONT ADDRESS DECODER)
IC305 CY7C136-55JC
IC304 M27C1001-70F1
IC302 HN58C1001P-15
IC309 HM62648LFP-10LTZ
IC308 M48Z128Y-120PM1
IC301 SN74HC32ANS
IC307 TC7S32F
IC300 TC74HC14AF
IC321 TC7W08F
IC314 MB671469PF
IC312 TC7W241FU 3ST BUFFER
IC315 MB654842UPF
IC318 TC74HC123AF MONO MULTI
IC319 SN74HC157ANS
IC306 TC7S32F
IC322 TC7S66F
Q400 2SC2712
D301 1S2837
X300 16MHz
X301 12.288MHz
EEPROM
TABLE FORMAT
TO BM BOARD CN490
(1/2)RESET
(1/2)MAIN CE
(1/2)PROTECT


10
11
12
13
14
15
16
17
18
19
20
IC311 CXD1086-146Q
IC313 HD6433337WA08F
IC303 SN74HC74ANS
IC307 TC7S32F
IC300 (1/6) TC74HC14AF
IC300 (2/6) TC74HC14AF
IC300 (4/6) TC74HC14AF
IC300 (3/6) TC74HC14AF
IC300 (5/6) TC74HC14AF
IC310 SN74HC139ANS
IC321 (1/2) TC7W08F
IC321 (2/2) TC7W08F
IC322 TC7S66F
IC319 SN74HC157ANS
IC320 TC74HC123AF
IC316 MM1170BFB
IC317 CXA1875AM
IC400 TC74HC4053AF
Q300 2SC2712
Q301 2SC2712
D301 1S2837
D402 RD5.1M
D403 RD5.1M
D404 RD5.1M
X301 12.288MHz
X302 16MHz
CN491 128P B TO B
REGI BUS
BAC CONT
I2C
+5V
D-LD
D-SDA
D-CLK
SDA
SCL
EX WR
EX OSC
CPU CLK
TP304
TP305
TP306
TP312
TP315
TP317
TP319
TP320
R-WR
R-RD
R-WDT
G2 B
G2 G
G2 R

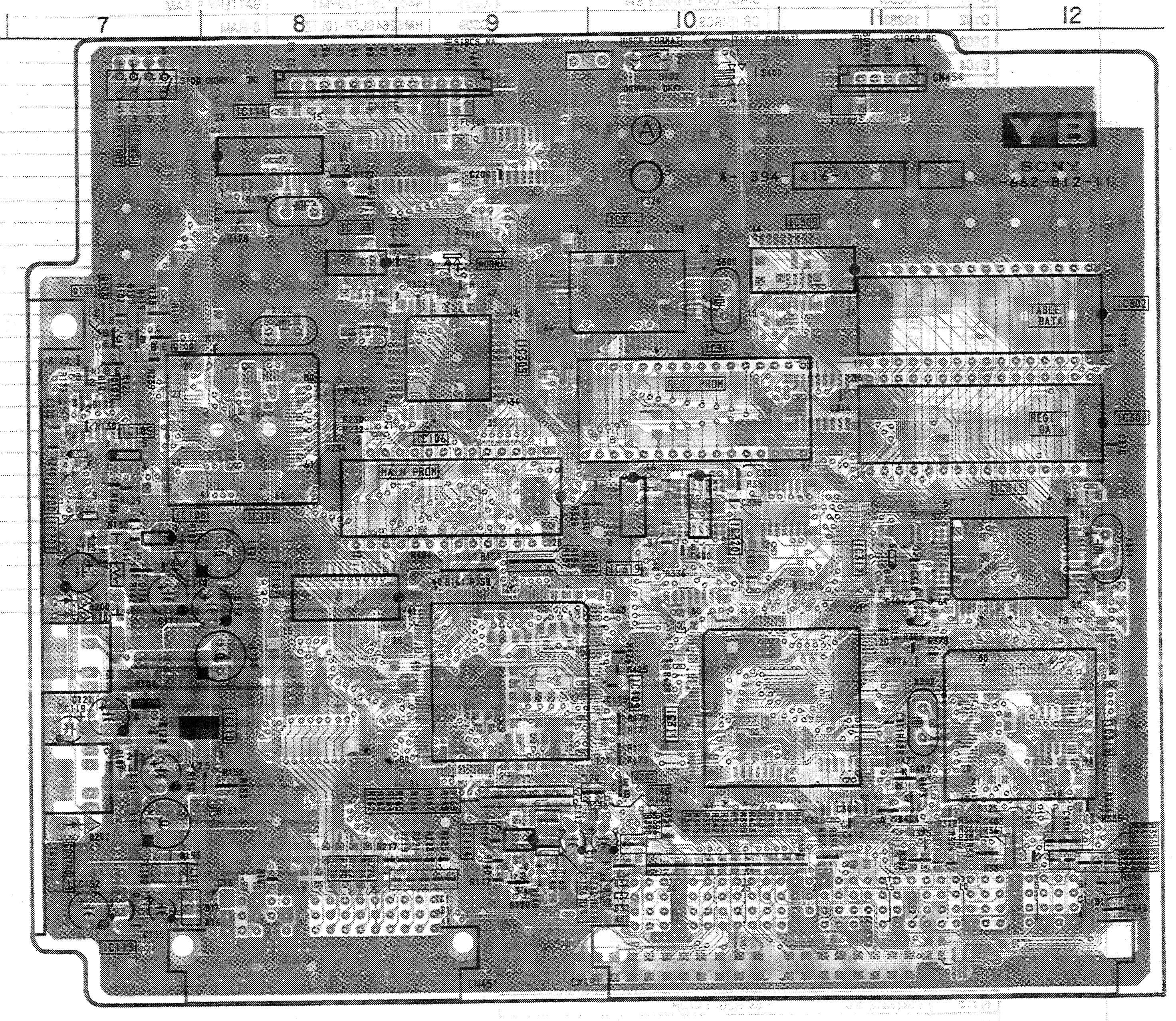
YB

(MAIN CPU, ADDRESS DECODER, SYNC CONTROLLER, REGI CPU, REMOTE COMMANDER RECEIVER, MEMORY CONTROL) BOARD

— YB BOARD — <Component side>


1
2
3
4
5
6
A
B
C
D
E
YB
SONY
1-662-812-11
Ⓑ
IC802 TABLE DATA
IC308 REGI DATA
IC304 REGI PROM
IC708 MAIN PROM
TABLE FORMAT
USER FORMAT
CN454
CN455
CN451
CN452

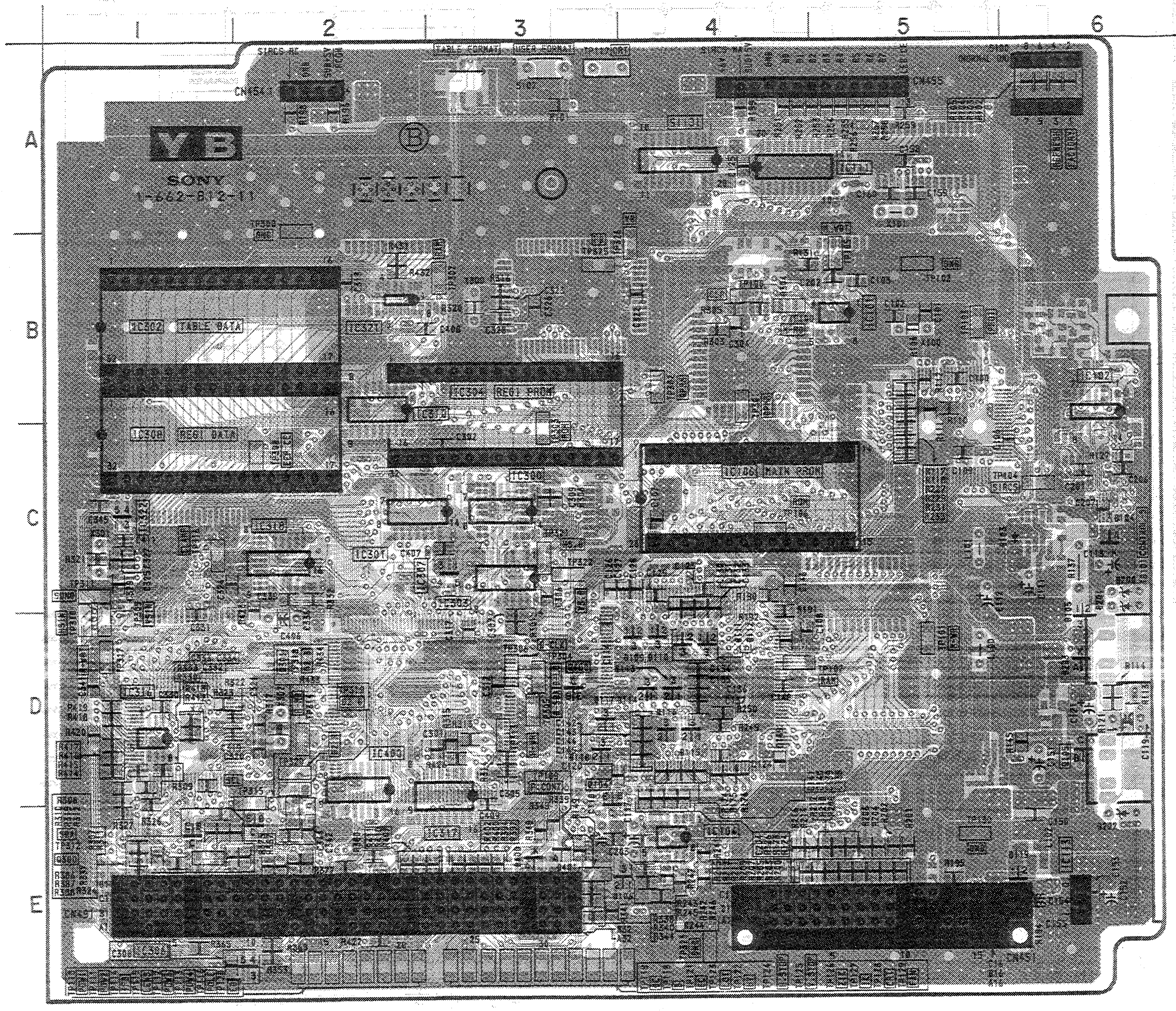
— YB BOARD — <Conductor side>


7
8
9
10
11
12
YB
SONY
1-662-812-11
Ⓐ
A-1394-816-A
TABLE DATA
REGI DATA
REGI PROM
MAIN PROM
TABLE FORMAT
USER FORMAT
CN454
CN455
CN451
CN452

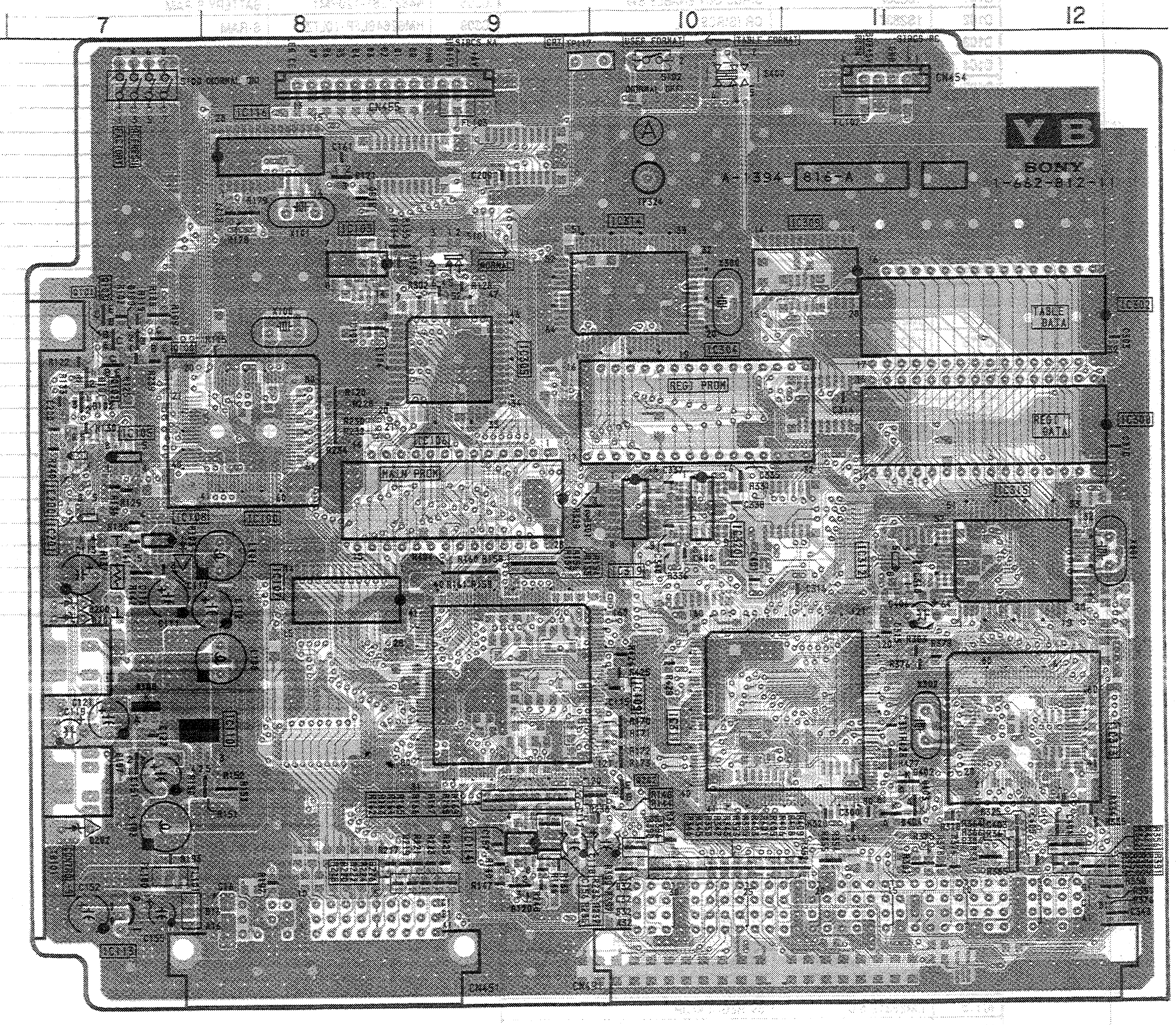
- ░: Pattern from the side which enables seeing.
- ▒: Pattern of the rear side.

YB (MAIN CPU, ADDRESS DECODER, SYNC CONTROLLER, REGI CPU, REMOTE COMMANDER RECEIVER, MEMORY CONTROL) BOARD

— YB BOARD — <Component side>

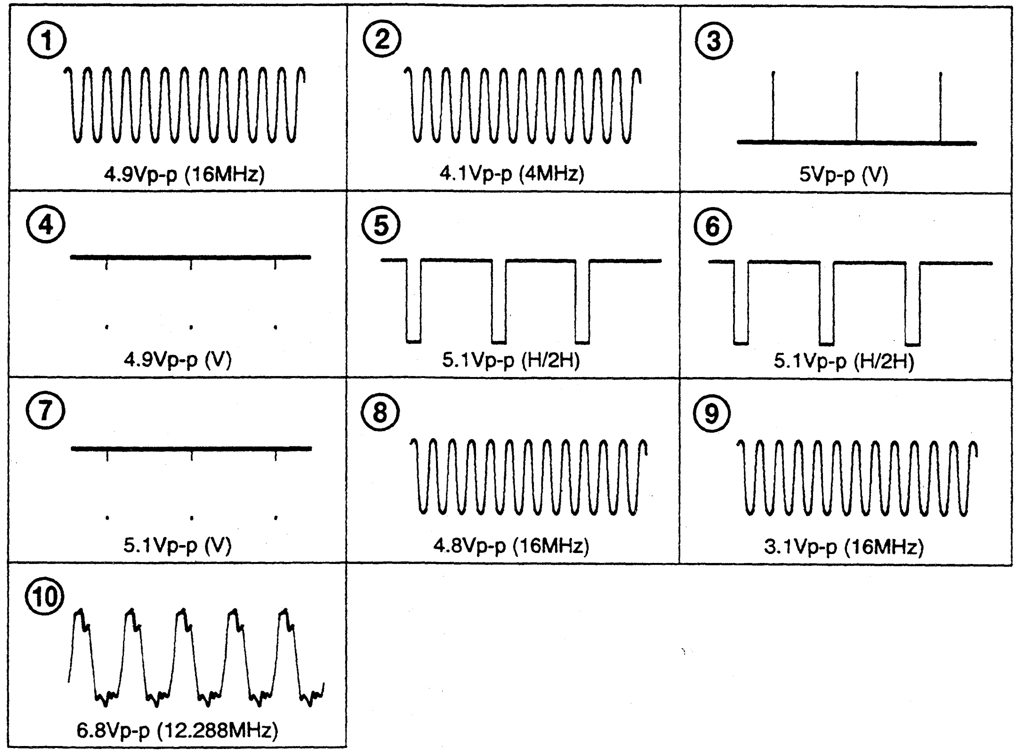

1
2
3
4
5
6
A
B
C
D
E
YB
SONY
1-662-812-11
TABLE DATA
REGI DATA
REGI PROM
MAIN PROM
TABLE FORMAT
USER FORMAT
CN454
CN455

— YB BOARD — <Conductor side>


7
8
9
10
11
12
YB
SONY
1-662-812-11
A-1394-816-A
TABLE DATA
REGI DATA
REGI PROM
MAIN PROM
TABLE FORMAT
USER FORMAT
CN454
CN455
CN451

- ▒: Pattern from the side which enables seeing.
- ▒: Pattern of the rear side.

YB Board Waveforms


① 4.9Vp-p (16MHz)
② 4.1Vp-p (4MHz)
③ 5Vp-p (V)
④ 4.9Vp-p (V)
⑤ 5.1Vp-p (H/2H)
⑥ 5.1Vp-p (H/2H)
⑦ 5.1Vp-p (V)
⑧ 4.8Vp-p (16MHz)
⑨ 3.1Vp-p (16MHz)
⑩ 6.8Vp-p (12.288MHz)

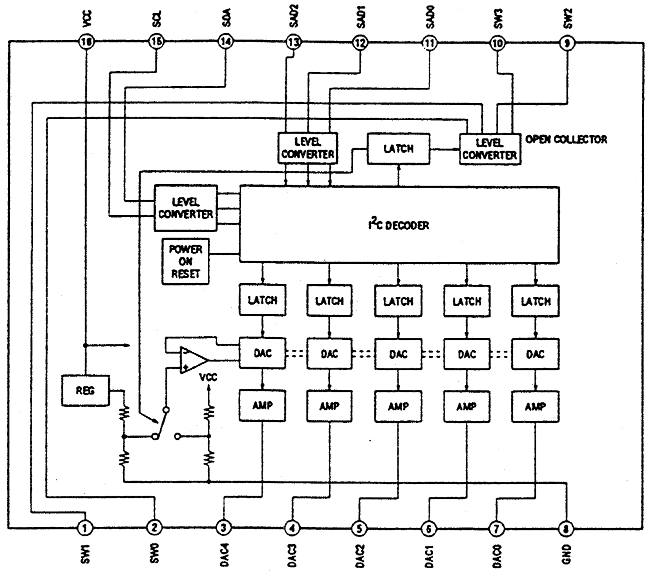
YB BOARD

Function of Semiconductor

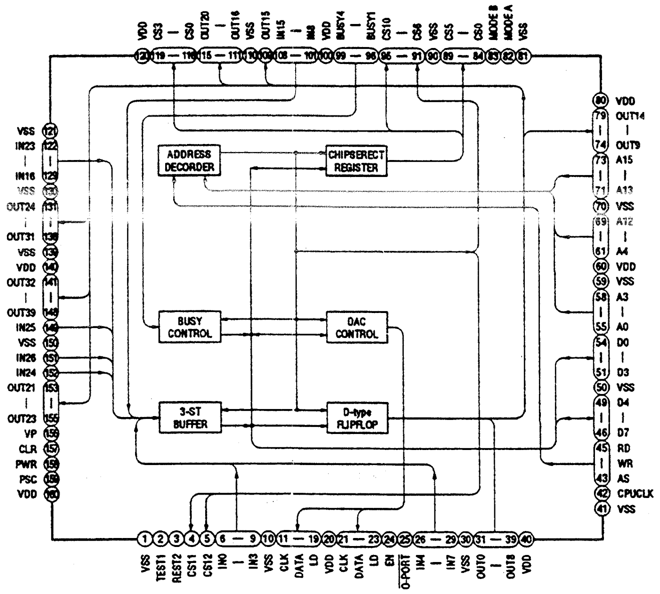
D100	1S2837	OR (SIRCS)
D101	1S2837	SIRCS OUT ENABLE SW
D102	1S2837	OR (SIRCS)
D103	D1NS4-TR2	STEP-UP
D104	RD6.8M-B2	PROTECT
D105	1S2837	PROTECT
D106	1S2837	DISCHARGE
D107	1S2837	DISCHARGE
D108	SB20-03P-TD	PROTECTOR
D109	1S2837	OR (PROTECTOR)
D110	1S2837	OR (PROTECTOR)
D111	1S2837	OR (PROTECTOR)
D112	1S2837	OR (PROTECTOR)
D113	1S2837	OR (PROTECTOR)
D114	1S2837	OR (PROTECTOR)
D115	1S2837	OR (PROTECTOR)
D116	1S2837	OR (PROTECTOR)
D117	1S2837	OR (PROTECTOR)
D118	1S2837	OR (PROTECTOR)
D119	1S2837	DISCHARGE
D120	1S2837	OR
D121	1S2837	POWER SW
D200	RD6.2ES-B2	PROTECTOR
D201	RD6.2ES-B2	PROTECTOR
D202	RD6.2ES-B2	PROTECTOR
D203	RD6.8M-B2	PROTECTOR
D301	1S2837	OR
D400	RD6.2ES-B2	PROTECTOR
D401	RD6.2ES-B2	PROTECTOR
D402	RD6.2ES-B2	PROTECTOR
D403	RD6.2ES-B2	PROTECTOR
D404	RD6.2ES-B2	PROTECTOR
IC100	HD6433337WA08F	MAIN CPU
IC101	MM1170BFB	RESET (WD TIMER)
IC102	SN74HCT08ANS-E05	AND
IC103	SN74HCT08ANS-E05	AND
IC104	uPC393G2	COMPARATOR (VOLTAGE DETECT)
IC105	TC7W14F	INVERTER
IC106	M270512-10F1	PROGRAM ROM (for MAIN MCU)
IC107	HM6264BLFP-10LTZ	S RAM
IC108	MAX762CSA-TE2	STEP-UP
IC109	CXD108-146Q	MAIN ADDRESS DECODER
IC110	PQ20VZ5U	REGULATOR
IC111	TC74HC573A	8-LATCH
IC113	LM2931Z-5.0	5V REGULATOR
IC114	uPC393G2-T2	COMPARATOR
IC115	TC74HC273AF	8-FF WITH CLR
IC116	uPD17215	SIRCS ENCODER
IC200	TC4W66FU	ANALOG SWITCH
IC201	TC7W241FU-TE12R	3ST BUFFER
IC300	TC74HC14AF	INVERTER
IC301	SN74HC74ANS-E05	OR
IC302	HN58C1001P-15	EEP ROM (for BACK-UP DATA)
IC303	SN74HC74ANS-E05	MEMORY GUARD
IC304	M27C1001-10F1	PROGRAM ROM (for REGI MCU)
IC305	CY7C136-55JC-TEL	DUAL PORT RAM (MAIN<->REGI)
IC306	TC7S32F	BUFFER
IC307	TC7S32F	OR
IC308	N48Z128Y-120PM1	BATTERY S RAM
IC309	HM6264BLFP-10LTZ	S-RAM
IC310	SN74HC139ANS-E05	EEP ROM SELECT
IC311	CXD108-146Q	REGI ADDRESS DECODER
IC312	TC7W241FU-TE12R	CLAMP SELECT
IC313	HD6433337WA08F	REGI MCU
IC314	MB671469PF	FH/FV COUNTER
IC315	MB654842UPF	SYNC CONTROLLER
IC316	MM1170BFB	RESET (WD TIMER)
IC317	CXA1875AM-T4	DAC (for G2 CONTROL)
IC318	TC74HC123AF-TP2	H SYNC REFORM
IC319	SN74HC157ANS-E05	SYNC SELECT
IC320	TC74HC123AF-TP2	V-SYNC DETECT
IC321	TC7W08F	AND
IC322	TC7S66F	ANALOG SW (for OSC SELECT)
IC400	TC74HC4053AF(EL)	ANALOG SW (for G2 SELECT)
Q100	DTC144EKA-T146	BUFFER (INV.)
Q101	DTC144EKA-T146	BUFFER (INV.)
Q102	DTC144EKA-T146	BUFFER (INV.)
Q103	2SC2712-YG-TE85L	BUFFER
Q104	2SC2712-YG-TE85L	PROTECT ENABLE SWITCH
Q105	DTC144EKA-T146	LED REG SW
Q202	2SA1162-YG-TE85L	PROTECT ENABLE SWITCH
Q300	2SC2712-YG-TE85L	BUS SWITCH
Q301	2SC2712-YG-TE85L	BUS SWITCH
Q400	2SC2712-YG-TE85L	INVERTER

YB BOARD IC Block Diagrams

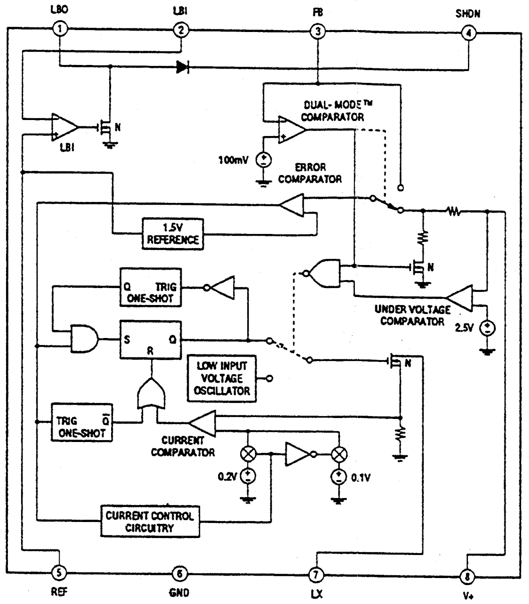
CXA1875AM (IC317)


VCC
SCL
SDA
SAD2
SAD1
SAD0
SW3
SW2
LEVEL CONVERTER
LATCH
LEVEL CONVERTER
OPEN COLLECTOR
LEVEL CONVERTER
I²C DECODER
POWER ON RESET
LATCH
DAC
AMP
REG
VCC
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
GND

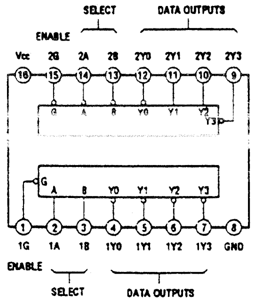
CXD108-146Q (IC109, 311)


VDD
CS3 — CS0
OUT20 — OUT16
VSS
OUT15
IN15 — IN8
VDD
BUSY4 — BUSY1
CS10 — CS6
VSS
CS5 — CS0
MODE B
MODE A
VSS
VSS
IN23 — IN16
VSS
OUT24 — OUT31
VSS
VDD
OUT32 — OUT39
IN25
VSS
IN26
IN24
OUT21 — OUT23
VP
CLR
PWR
PSC
VDD
ADDRESS DECORDER
CHIPSERECT REGISTER
BUSY CONTROL
DAC CONTROL
3-ST BUFFER
D-type FLIPFLOP
VDD
OUT14 — OUT9
A15 — A13
VSS
A12 — A4
VDD
VSS
A3 — A0
D0 — D3
VSS
D4 — D7
RD
WR
AS
CPUCLK
VSS
VSS
TEST1
REST2
CS11
CS12
IN0 — IN3
VSS
CLK
DATA
LD
VDD
CLK
DATA
LD
EN
O-PORT
IN4 — IN7
VSS
OUT0 — OUT8
VDD

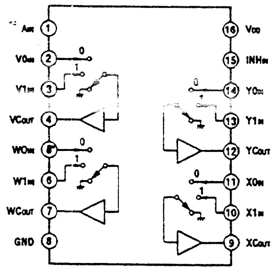
MAX762LSA (IC108)


LBO
LBI
FB
SHDN
N
LBI
DUAL-MODE™ COMPARATOR
100mV
ERROR COMPARATOR
1.5V REFERENCE
N
Q TRIG ONE-SHOT
UNDER VOLTAGE COMPARATOR
2.5V
S Q R
LOW INPUT VOLTAGE OSCILLATOR
N
TRIG Q̄ ONE-SHOT
CURRENT COMPARATOR
0.2V
0.1V
CURRENT CONTROL CIRCUITRY
REF
GND
LX
V+

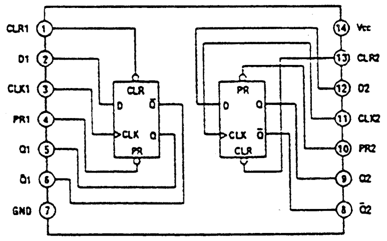
SN74HC139ANS (IC310)


SELECT
DATA OUTPUTS
ENABLE
Vcc
2G
2A
2B
2Y0
2Y1
2Y2
2Y3
G
A
B
Y0
Y1
Y2
Y3
1G
1A
1B
1Y0
1Y1
1Y2
1Y3
GND
ENABLE
SELECT
DATA OUTPUTS

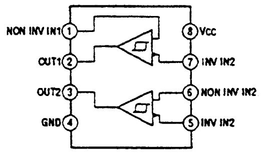
SN74HC157ANS (IC319)


AIN
V0IN
V1IN
VCOUT
W0IN
W1IN
WCOUT
GND
VDD
INHIN
Y0IN
Y1IN
YCOUT
X0IN
X1IN
XCOUT
0
1

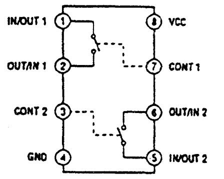
SN74HC74ANS (IC303)


CLR1
D1
CLK1
PR1
Q1
Q̄1
GND
CLR
D
Q̄
CLK
Q
PR
PR
D
Q
CLK
Q̄
CLR
Vcc
CLR2
D2
CLK2
PR2
Q2
Q̄2

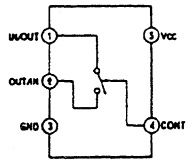
SN75157 (IC515)


NON INV IN1
OUT1
OUT2
GND
Vcc
INV IN2
NON INV IN2
INV IN2

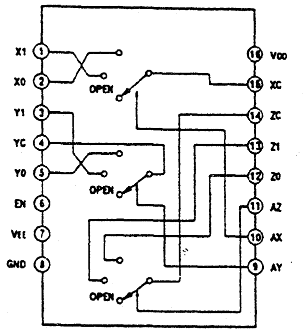
TC4W66FU (IC200)


IN/OUT 1
OUT/IN 1
CONT 2
GND
VCC
CONT 1
OUT/IN 2
IN/OUT 2

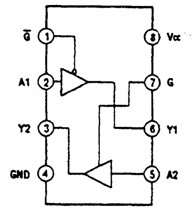
TC7S66F (IC322)


IN/OUT
OUT/IN
GND
Vcc
CONT

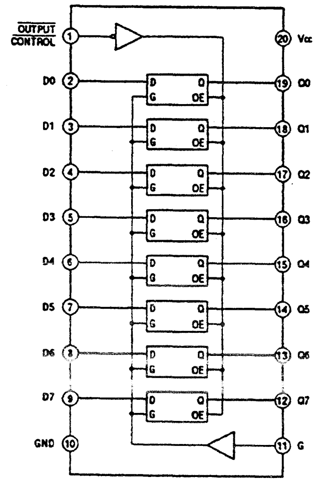
TC74HC4053AF (IC400)


X1
X0
Y1
YC
Y0
EN
VEE
GND
VDD
XC
ZC
Z1
Z0
AZ
AX
AY
OPEN

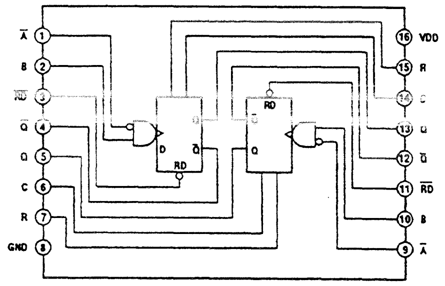
TC7W241FU (IC201, 312)


G
A1
Y2
GND
Vcc
G
Y1
A2

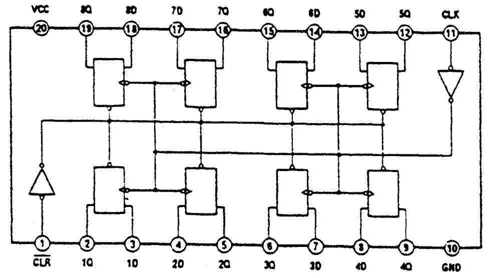
TC74HC573AF (IC111)


OUTPUT CONTROL
D0
D1
D2
D3
D4
D5
D6
D7
GND
Vcc
Q0
Q1
Q2
Q3
Q4
Q5
Q6
Q7
G

TC74HC123AF (IC318, 320)

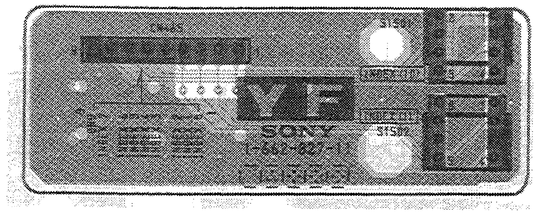


TC74HC273AF (IC115)


VCC
8Q
8D
7D
7Q
6Q
6D
5D
5Q
CLK
CLR
1Q
1D
2D
2Q
3Q
3D
4D
4Q
GND

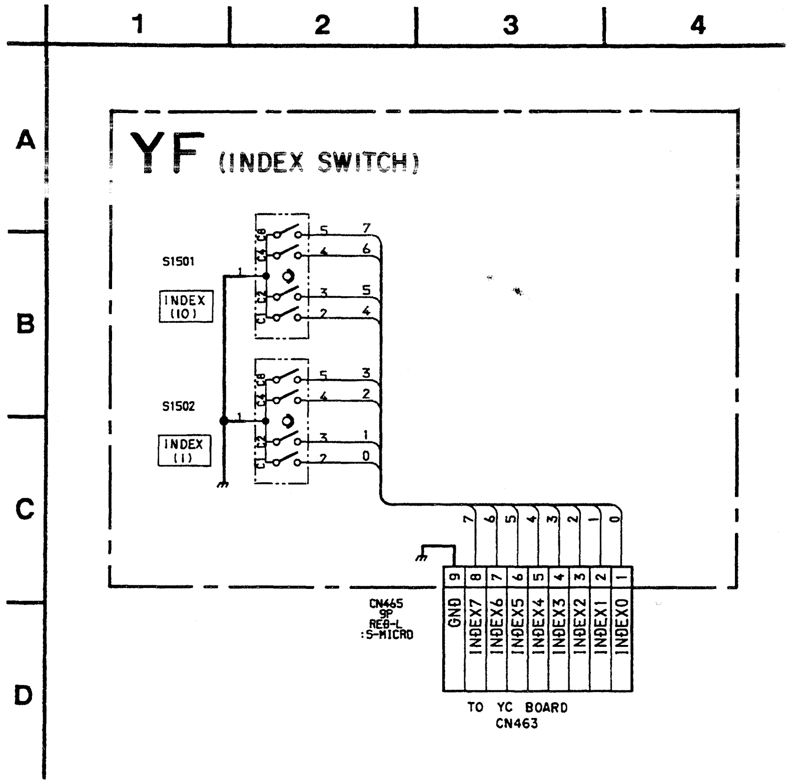
YF (INDEX SWITCH) BOARD

— YC BOARD — <Conductor side>


CN465
S1501
S1502
YF
SONY
1-640-827-11

- ░: Pattern from the side which enables seeing.
- ▓: Pattern of the rear side.

• YF (INDEX SWITCH) DIAGRAM

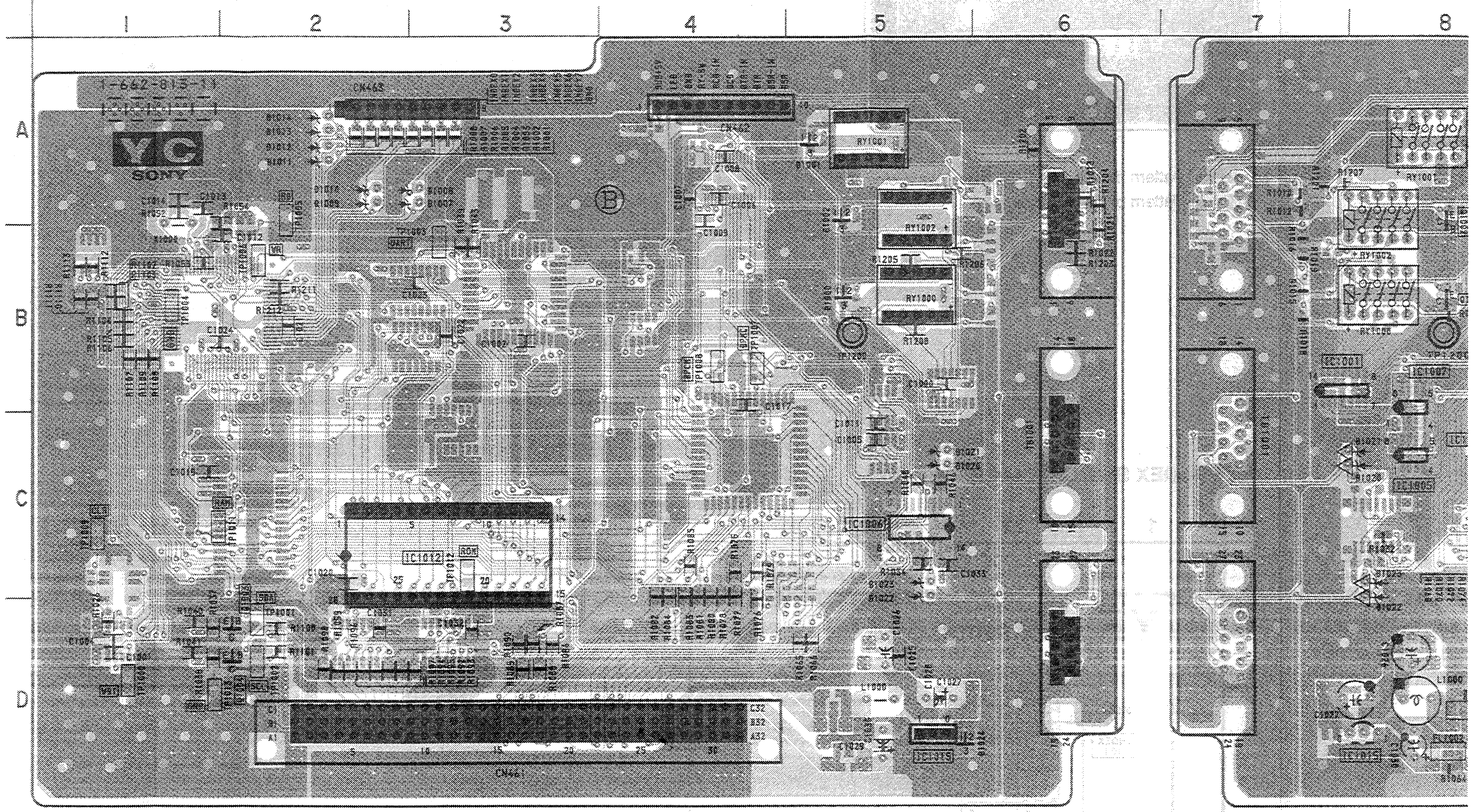

1
2
3
4
A
B
C
D
YF (INDEX SWITCH)
S1501
INDEX (10)
S1502
INDEX (1)
CN465 9P REG-L :S-MICRO
GND
INDEX7
INDEX6
INDEX5
INDEX4
INDEX3
INDEX2
INDEX1
INDEX0
TO YC BOARD CN463

YC (REMOTE (RS-422A), COMM CPU) BOARD

YC BOARD
Semiconductors Location

DIODE	
D1007	A-3
D1008	A-3
D1009	A-2
D1010	A-2
D1011	A-2
D1012	A-2
D1013	A-2
D1014	A-2
D1024	D-5
IC	
IC1000	B-9
IC1001	B-7
IC1002	D-12
IC1008	B-11
IC1009	C-8
IC1010	C-16
IC1011	C-11
IC1012	C-3
IC1013	B-10
IC1014	B-10
IC1015	D-5
TRANSISTOR	
Q1003	D-2
Q1004	D-2
TEST POINT	
TP1000	D-1
TP1001	D-2
TP1002	D-2
TP1004	B-1
TP1005	A-2
TP1006	B-2
TP1007	B-4
TP1008	B-4
TP1009	C-1
TP1011	C-1
TP1012	C-3
TP1013	D-1
TP1200	B-5

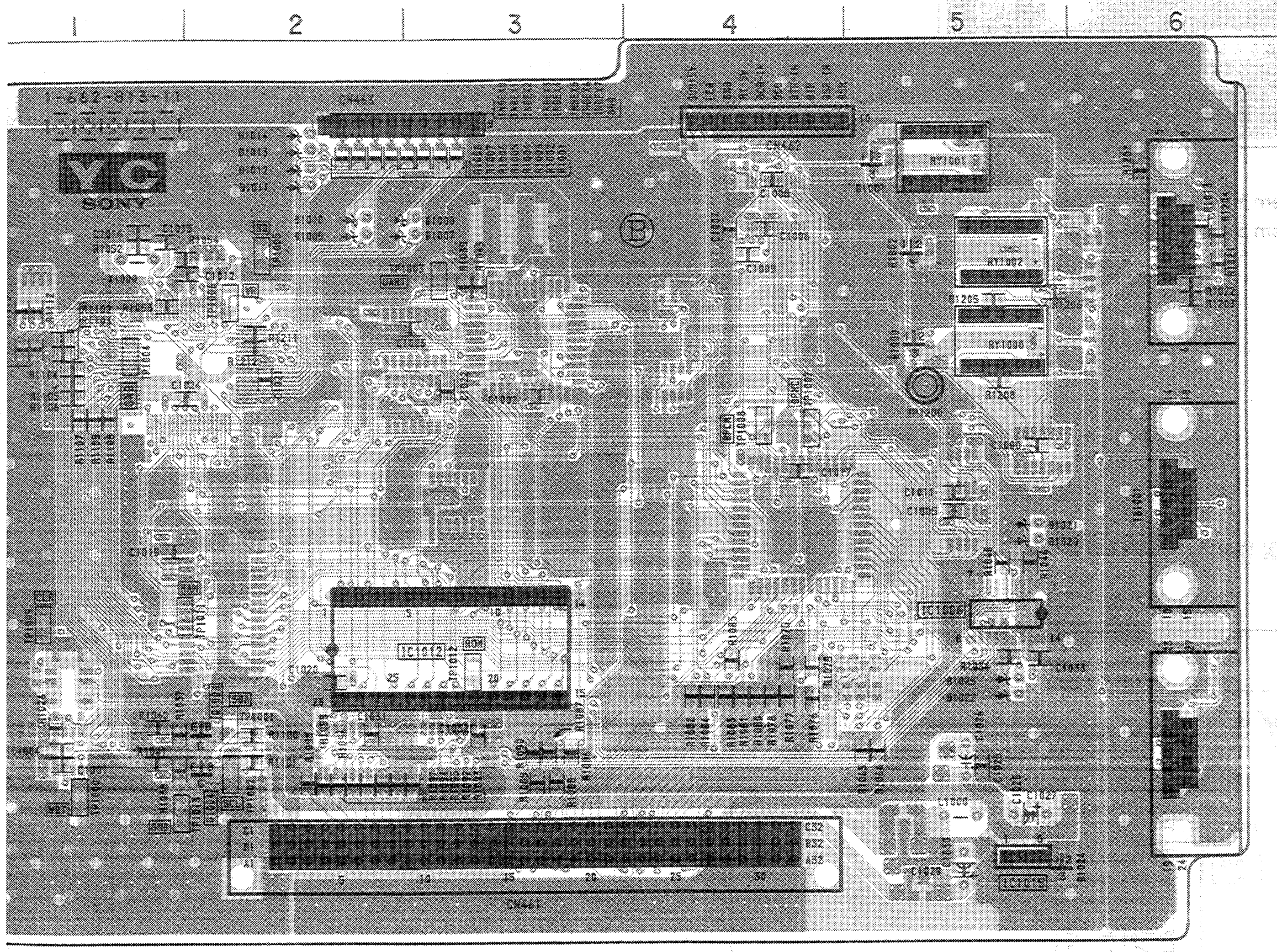
— YC BOARD — <Conductor side>


1
2
3
4
5
6
7
8
A
B
C
D
1-642-815-11
YC
SONY
CN463
CN462
CN461
RY1001
RY1002
RY1000
IC1012
IC1006
IC1015
IC1001
IC1002
IC1005
C32
B32
A32
A1
5
10
15
20
25
30

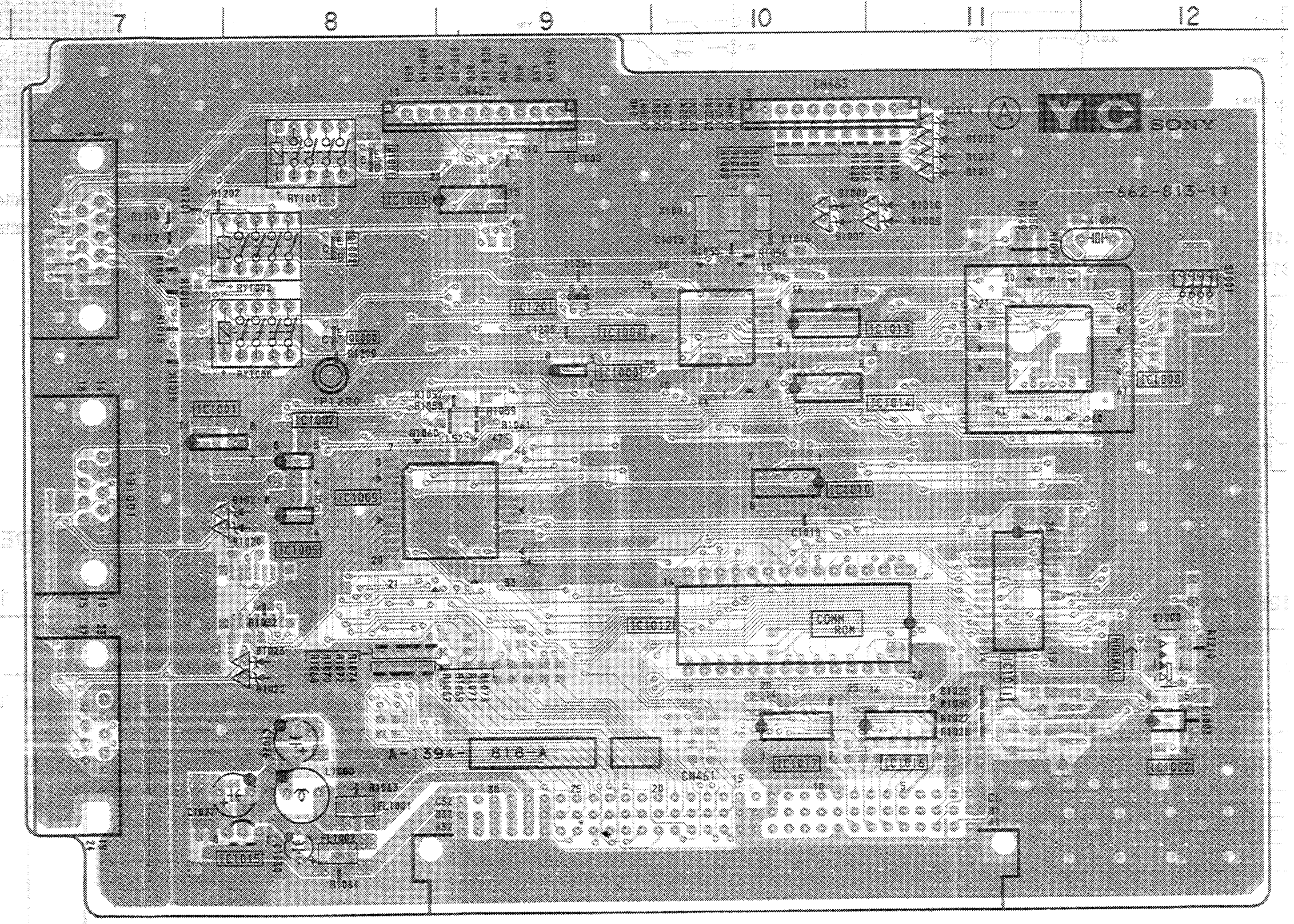
— YC BOARD — <Component

(REMOTE (RS-422A), COMM CPU) BOARD

BOARD — <Conductor side>

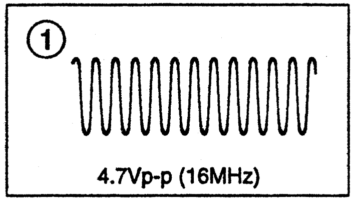

1
2
3
4
5
6
YC
SONY
1-662-813-11
CN462
CN461
IC1012
B

— YC BOARD — <Component side>


7
8
9
10
11
12
YC
SONY
1-662-813-11
A
CN463
IC1012
COMM ROM
A-1394-818-A
CN461

- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

YC Board Waveforms



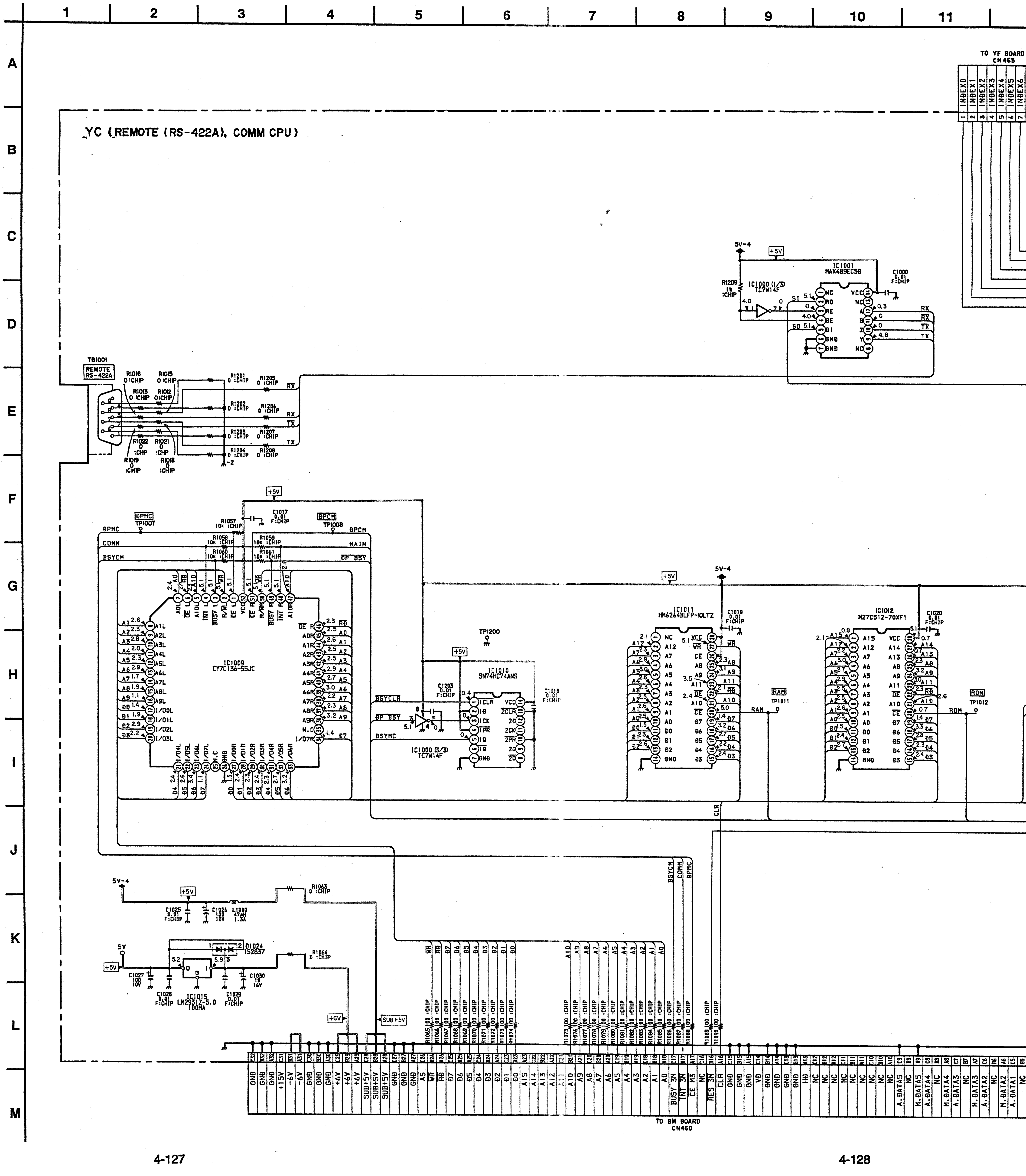
YC BOARD

Function of Semiconductor

D1007	RD6.2ES-B2	PROTECTOR
D1008	RD6.2ES-B2	PROTECTOR
D1009	RD6.2ES-B2	PROTECTOR
D1010	RD6.2ES-B2	PROTECTOR
D1011	RD6.2ES-B2	PROTECTOR
D1012	RD6.2ES-B2	PROTECTOR
D1013	RD6.2ES-B2	PROTECTOR
D1014	RD6.2ES-B2	PROTECTOR
D1024	1S2837	DC LEVEL SHIFT
IC1000	TC7W14F	ANALOG SW
IC1001	MAX489ECSD-TE2	RS-422A TRANCIEVER
IC1002	MM1170BFB	WD TIMER
IC1008	HD6433337WA08F	COMM CPU
IC1009	CY7C136-55JC-TEL	DUAL PORT RAM (MAIN<->COMM)
IC1010	SN74HC74ANS-E05	EEP ROM
IC1011	HM6264BLFP-10LTZ	RAM
IC1012	M270512-10F1	ROM

IC1013	SN74HC138ANS-E05	A
IC1014	SN74HC11ANS-E05	3
IC1015	LM2931Z-5.0	5
Q1003	2SC2712-YG	B
Q1004	2SC2712-YG	B

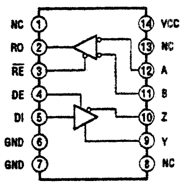
• YC (REMOTE (RS-422A), COMM CPU) DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
YC (REMOTE (RS-422A), COMM CPU)
TO YF BOARD CN465
INDEX0
INDEX1
INDEX2
INDEX3
INDEX4
INDEX5
INDEX6
TB1001
REMOTE RS-422A
R1016 0 :CHIP
R1015 0 :CHIP
R1013 0 :CHIP
R1012 0 :CHIP
R1022 0 :CHIP
R1021 0 :CHIP
R1019 0 :CHIP
R1018 0 :CHIP
R1201 0 :CHIP
R1202 0 :CHIP
R1203 0 :CHIP
R1204 0 :CHIP
R1205 0 :CHIP
R1206 0 :CHIP
R1207 0 :CHIP
R1208 0 :CHIP
RX
TX
5V-4
+5V
R1209 1k :CHIP
IC1000 (1/3) TC7W14F
IC1001 MAX489ECSD
C1000 0.01 F:CHIP
NC
RO
RE
DE
DI
GND
VCC
A
B
Z
Y
S1
S0
ØPMC
TP1007
ØPCM
TP1008
COMM
MAIN
BSYCM
ØP BSY
R1057 10k :CHIP
R1058 10k :CHIP
R1059 10k :CHIP
R1060 10k :CHIP
R1061 10k :CHIP
C1017 0.01 F:CHIP
IC1009 CY7C136-55JC
TP1200
IC1010 SN74HC74ANS
C1203 0.01 F:CHIP
C1318 0.01 F:CHIP
BSYCLR
BSYMC
IC1000 (3/3) TC7W14F
IC1011 HM6264BLFP-10LTZ
C1019 0.01 F:CHIP
RAM
TP1011
IC1012 M27C512-70XF1
C1020 0.01 F:CHIP
ROM
TP1012
CLR
R1063 0 :CHIP
C1025 0.01 F:CHIP
C1026 100 10V
L1000 47μH 1.5A
5V
D1024 1S2837
R1064 0 :CHIP
C1027 100 10V
C1028 0.01 F:CHIP
IC1015 LM2931Z-5.0 100MA
C1029 0.01 F:CHIP
C1030 10 16V
+6V
SUB+5V
R1065 100 :CHIP
R1090 100 :CHIP
TO BM BOARD CN460
GND
+15V
-6V
A5
WR
RD
D7
D6
D5
D4
D3
D2
D1
D0
A15
A14
A13
A12
A11
A10
A9
A8
A7
A6
A4
A3
A2
A1
A0
BUSY 3M
INT 3M
CE M3
RES 3M
VD
HD
A.DATA5
M.DATA5
A.DATA4
M.DATA4
A.DATA3
M.DATA3
A.DATA2
M.DATA2
A.DATA1

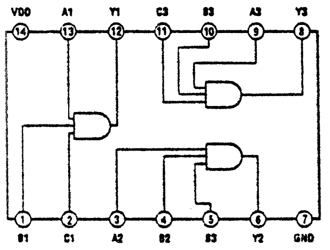
YC BOARD IC Block Diagrams

IC1013	SN74HC138ANS-E05	ADDRESS DECODER
IC1014	SN74HC11ANS-E05	3-INPUT AND
IC1015	LM2931Z-5.0	5V REG
Q1003	2SC2712-YG	BUS SW 1
Q1004	2SC2712-YG	BUS SW 3

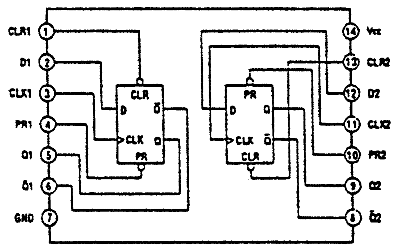
MAX489ECSD (IC1002)


NC
RO
RE
DE
DI
GND
GND
VCC
NC
A
B
Z
Y
NC

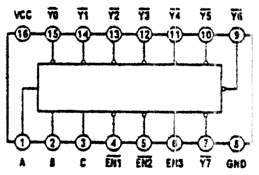
SN74HC11ANS (IC1014)

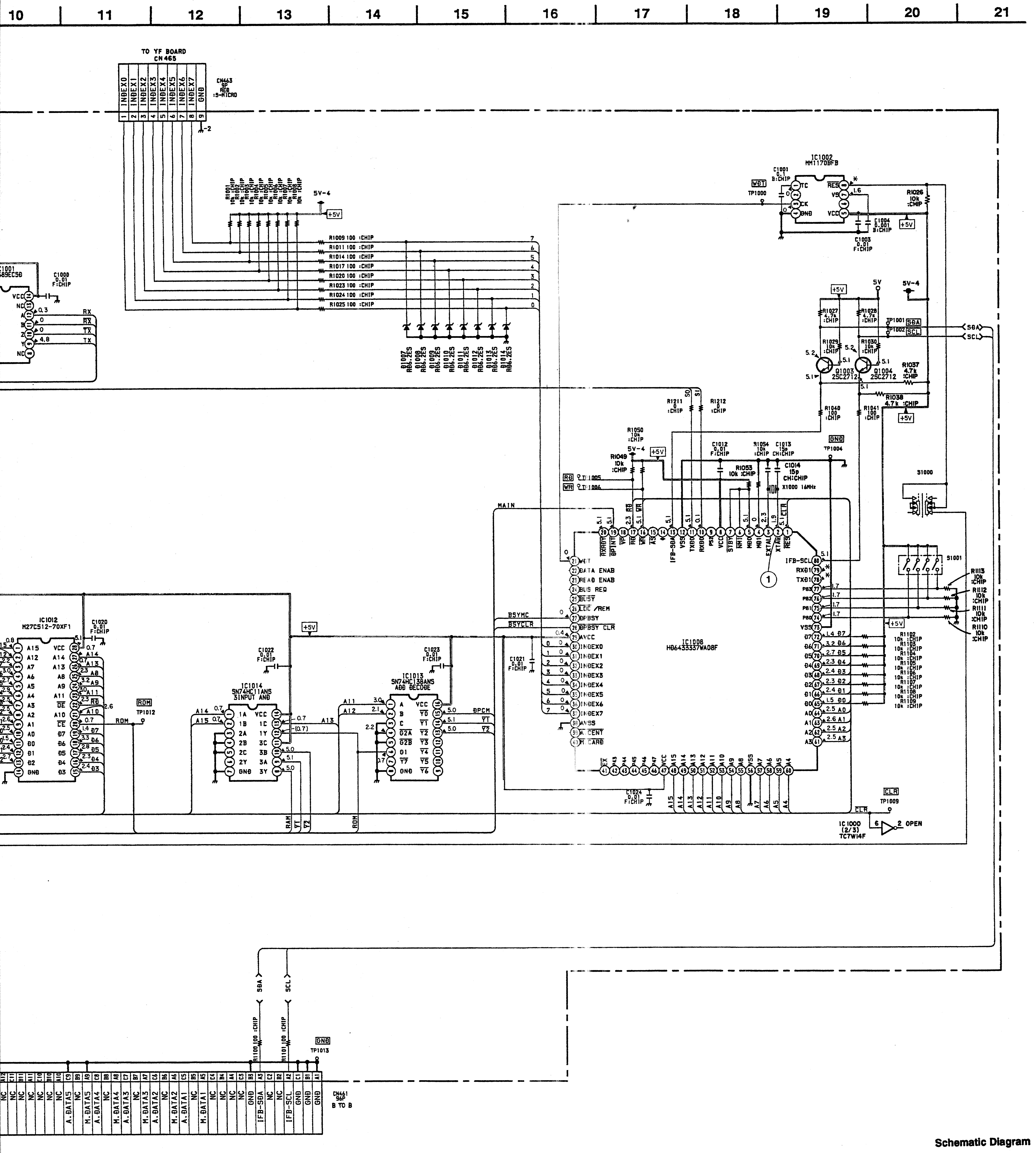

VDD
A1
Y1
C3
B3
A3
Y3
B1
C1
A2
B2
B3
Y2
GND

SN74HC74ANS (IC1010)


CLR1
D1
CLK1
PR1
Q1
Q̄1
GND
Vcc
CLR2
D2
CLK2
PR2
Q2
Q̄2
CLR
PR
CLK

SN74HC138ANS (IC1013)


VCC
Y0
Y1
Y2
Y3
Y4
Y5
Y6
A
B
C
EN1
EN2
EN3
Y7
GND


10
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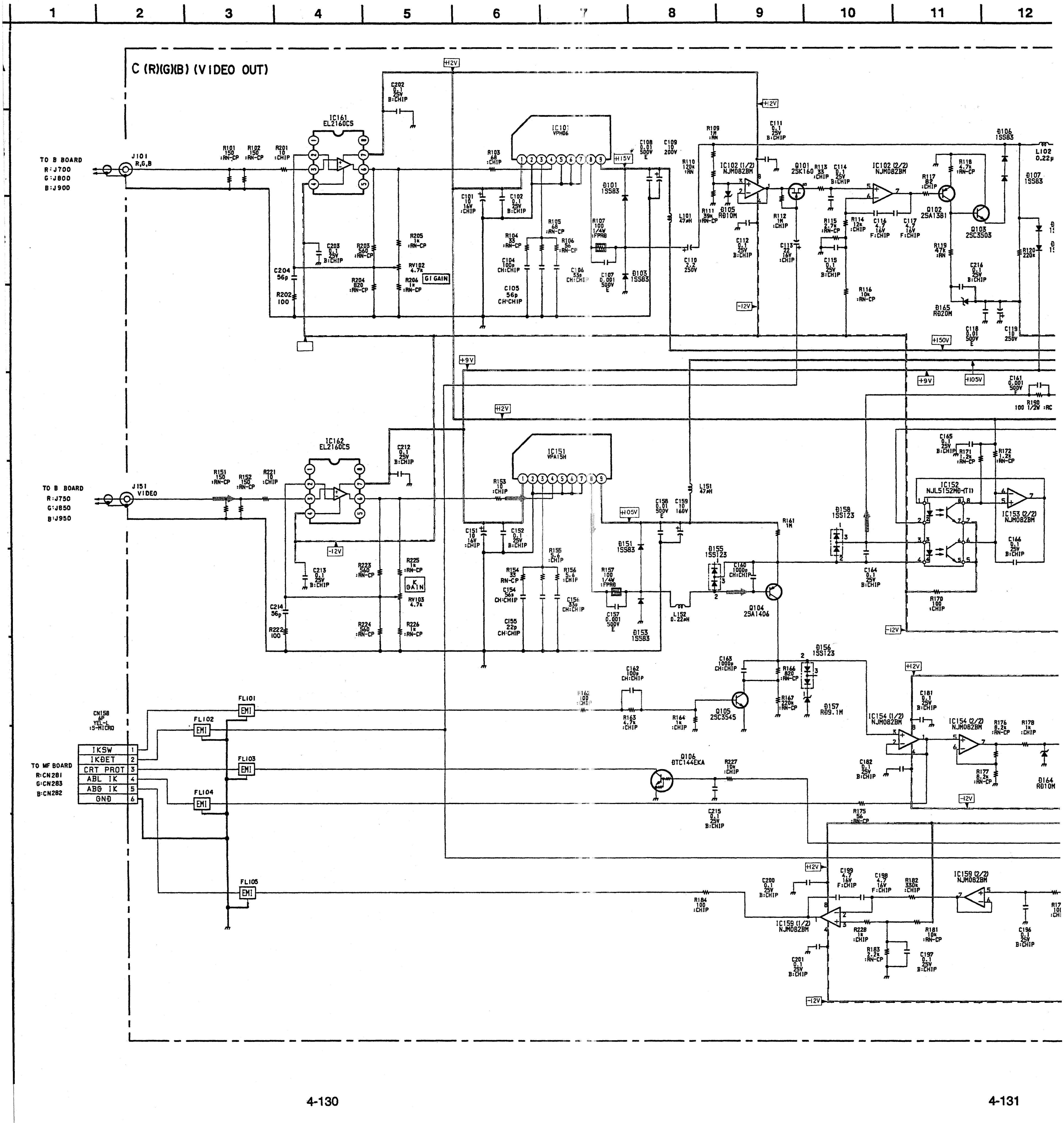
21
TO YF BOARD CN465
INDEX0
INDEX1
INDEX2
INDEX3
INDEX4
INDEX5
INDEX6
INDEX7
GND
CN463 9P REG :S-MICRO
5V-4
+5V
R1009 100 :CHIP
R1011 100 :CHIP
R1014 100 :CHIP
R1017 100 :CHIP
R1020 100 :CHIP
R1023 100 :CHIP
R1024 100 :CHIP
R1025 100 :CHIP
D1007-D1014 RD6.2ES
IC1001 MAX489ECSD
C1000 0.01 F:CHIP
RX
TX
IC1002 MM1170BFB
WDT
TP1000
C1001 0.1 B:CHIP
C1004 0.001 B:CHIP
C1003 0.01 F:CHIP
R1026 10k :CHIP
R1027 4.7k :CHIP
R1028 4.7k :CHIP
R1029 10k :CHIP
R1030 10k :CHIP
TP1001 SDA
TP1002 SCL
SDA
SCL
Q1003 2SC2712
Q1004 2SC2712
R1037 4.7k :CHIP
R1038 4.7k :CHIP
R1040 100 :CHIP
R1041 100 :CHIP
R1211 0 :CHIP
R1212 0 :CHIP
R1050 10k :CHIP
R1049 10k :CHIP
C1012 0.01 F:CHIP
R1054 10k :CHIP
C1013 15p CH:CHIP
R1053 10k :CHIP
C1014 15p CH:CHIP
X1000 16MHz
GND
TP1004
S1000
S1001
RD TP1005
WR TP1006
MAIN
BSYMC
BSYCLR
IC1008 H8/6433337WA08F
IFB-SDA
IFB-SCL
RXD1
TXD1
DATA ENAB
READ ENAB
BUS REQ
BUSY
LOC/REM
OPBSY
OPBSY CLR
AVCC
INDEX0
INDEX1
INDEX2
INDEX3
INDEX4
INDEX5
INDEX6
INDEX7
AVSS
A CENT
H CARD
R1113 10k :CHIP
R1112 10k :CHIP
R1111 10k :CHIP
R1110 10k :CHIP
R1102-R1109 10k :CHIP
C1021 0.01 F:CHIP
C1024 0.01 F:CHIP
CLR
TP1009
IC1000 (2/3) TC7W14F
OPEN
1
IC1012 M27C512-70XF1
C1020 0.01 F:CHIP
ROM
TP1012
C1022 0.01 F:CHIP
IC1014 SN74HC11ANS 3INPUT AND
C1023 0.01 F:CHIP
IC1013 SN74HC138ANS ADD DECODE
OPCM
RAM
ROM
SDA
SCL
R1100 100 :CHIP
R1101 100 :CHIP
GND
TP1013
A.DATA5
M.DATA5
A.DATA4
M.DATA4
A.DATA3
M.DATA3
A.DATA2
M.DATA2
A.DATA1
M.DATA1
IFB-SDA
IFB-SCL
CN461 96P B TO B

Schematic Diagram

C board ➡

• C (R.G.B) (VIDEO OUT) DIAGRAM


1
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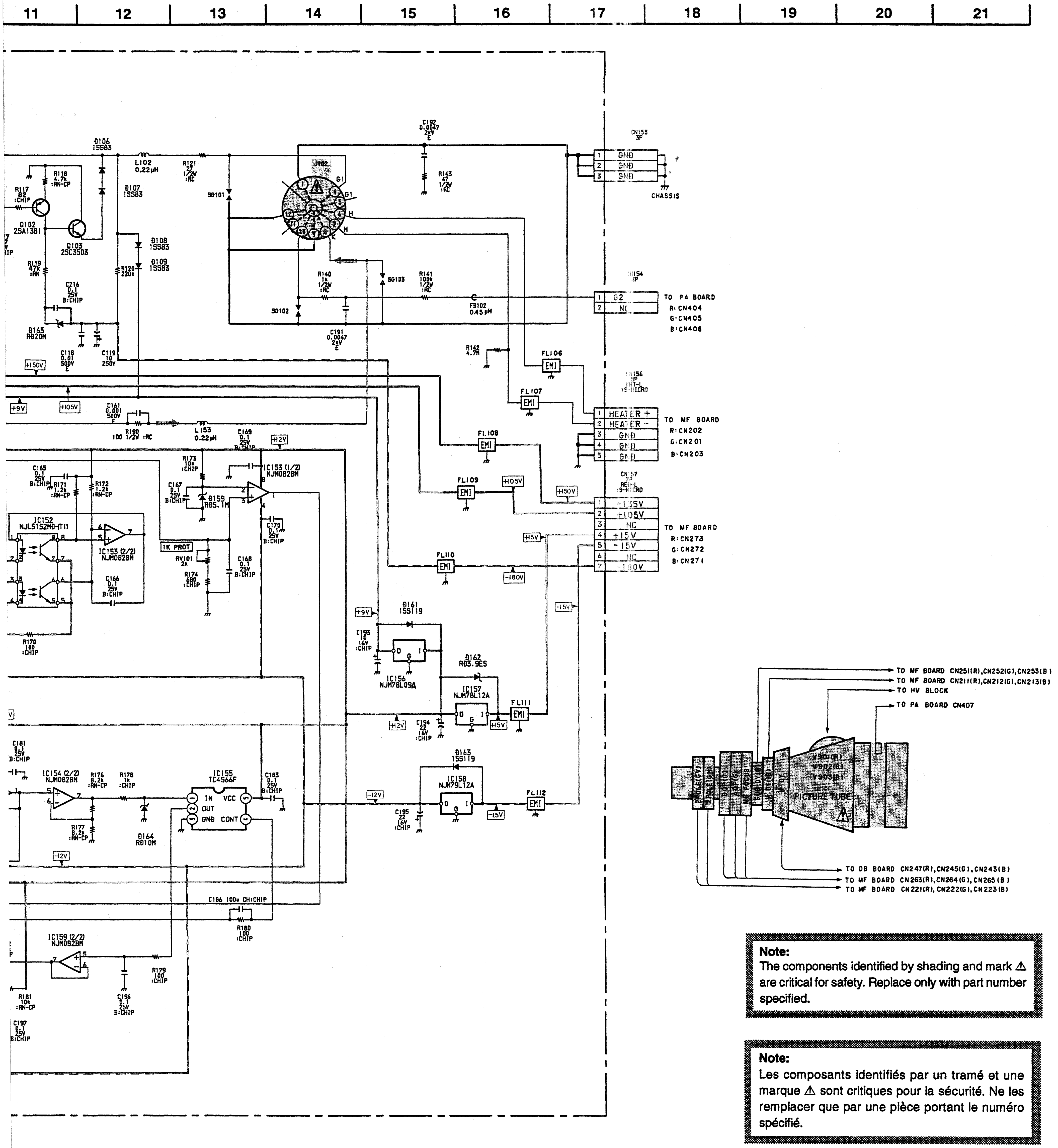
12
C (R)(G)(B) (VIDEO OUT)
TO B BOARD
R:J700
G:J800
B:J900
J101
R,G,B
R101 150 :RN-CP
R102 150 :RN-CP
R201 10 :CHIP
IC161 EL2160CS
C202 0.1 25V B:CHIP
+12V
IC101 VPH06
R103 68 :CHIP
C108 0.01 500V E
C109 10 200V
+15V
D101 1SS83
R109 1M :RN
R110 120k :RN
C111 0.1 25V B:CHIP
IC102 (1/2) NJM082BM
Q101 2SK160
R113 33 :CHIP
C114 0.1 25V B:CHIP
IC102 (2/2) NJM082BM
R118 4.7k :RN-CP
D106 1SS83
L102 0.22μ
D107 1SS83
R117 82 :CHIP
Q102 2SA1381
Q103 2SC3503
C101 10 16V :CHIP
C102 0.1 25V B:CHIP
R104 33 :RN-CP
R105 68 :RN-CP
R106 56 :RN-CP
R107 100 1/4W :FPRB
L101 47μH
R111 39k :RN-CP
D105 RD10M
R112 1M :CHIP
R115 2.7k :RN-CP
R114 12k :CHIP
C116 4.7 16V F:CHIP
C117 4.7 16V F:CHIP
R119 47k :RN
R120 220k
C203 0.1 25V B:CHIP
R203 560 :RN-CP
R205 1k :RN-CP
RV102 4.7k
G1 GAIN
C204 56p
R202 100
R204 820 :RN-CP
R206 1k :RN-CP
C104 100p CH:CHIP
C105 56p CH:CHIP
C106 33p CH:CHIP
C107 0.001 500V E
D103 1SS83
C110 2.2 250V
C112 0.1 25V B:CHIP
C113 22 16V :CHIP
C115 0.1 25V B:CHIP
R116 10k :RN-CP
C216 0.1 25V B:CHIP
D165 RD20M
C118 0.01 500V E
C119 10 250V
-12V
+150V
+9V
+105V
C161 0.001 500V
R190 100 1/2W :RC
TO B BOARD
R:J750
G:J850
B:J950
J151
VIDEO
R151 150 :RN-CP
R152 150 :RN-CP
R221 10 :CHIP
IC162 EL2160CS
C212 0.1 25V B:CHIP
IC151 VPA15H
R153 10 :CHIP
L151 47μH
C158 0.01 500V E
C159 10 160V
R161 1M
C165 0.1 25V B:CHIP
R171 1.2k :RN-CP
R172 1.2k :RN-CP
IC152 NJL5152MB-(T1)
IC153 (2/2) NJM082BM
D158 1SS123
C151 10 16V :CHIP
C152 0.1 25V B:CHIP
R154 33 RN-CP
R155 5.6 :CHIP
R156 5.6 :CHIP
R157 100 1/4W :FPRB
D151 1SS83
D155 1SS123
C160 1000p CH:CHIP
C166 0.1 25V B:CHIP
C164 0.1 25V B:CHIP
C213 0.1 25V B:CHIP
R223 560 :RN-CP
R225 1k :RN-CP
K GAIN
RV103 4.7k
C214 56p
R222 100
R224 560 :RN-CP
R226 1k :RN-CP
C154 56p CH:CHIP
C155 22p CH:CHIP
C156 33p CH:CHIP
C157 0.001 500V E
D153 1SS83
L152 0.22μH
Q104 2SA1406
R170 100 :CHIP
C163 1000p CH:CHIP
R166 820 :RN-CP
D156 1SS123
R167 220k :RN-CP
D157 RD9.1M
C162 100p CH:CHIP
R162 100 :CHIP
R163 4.7k :CHIP
R164 1k :CHIP
Q105 2SC3545
C181 0.1 25V B:CHIP
IC154 (1/2) NJM082BM
IC154 (2/2) NJM082BM
R176 8.2k :RN-CP
R178 1k :CHIP
C182 0.1 25V B:CHIP
R177 8.2k :RN-CP
D164 RD10M
CN158 6P YEL-L :S-MICRO
FL101 EMI
FL102 EMI
FL103 EMI
FL104 EMI
FL105 EMI
TO MF BOARD
R:CN281
G:CN283
B:CN282
IKSW 1
IKDET 2
CRT PROT 3
ABL IK 4
ABG IK 5
GND 6
Q106 DTC144EKA
R227 10k :CHIP
C215 0.1 25V B:CHIP
R175 56 :RN-CP
C199 4.7 16V F:CHIP
C198 4.7 16V F:CHIP
R182 330k :CHIP
IC159 (2/2) NJM082BM
C200 0.1 25V B:CHIP
R184 100 :CHIP
IC159 (1/2) NJM082BM
R228 1k :CHIP
R181 10k :RN-CP
R183 2.2k :RN-CP
C197 0.1 25V B:CHIP
C201 0.1 25V B:CHIP
C196 0.1 25V B:CHIP


11
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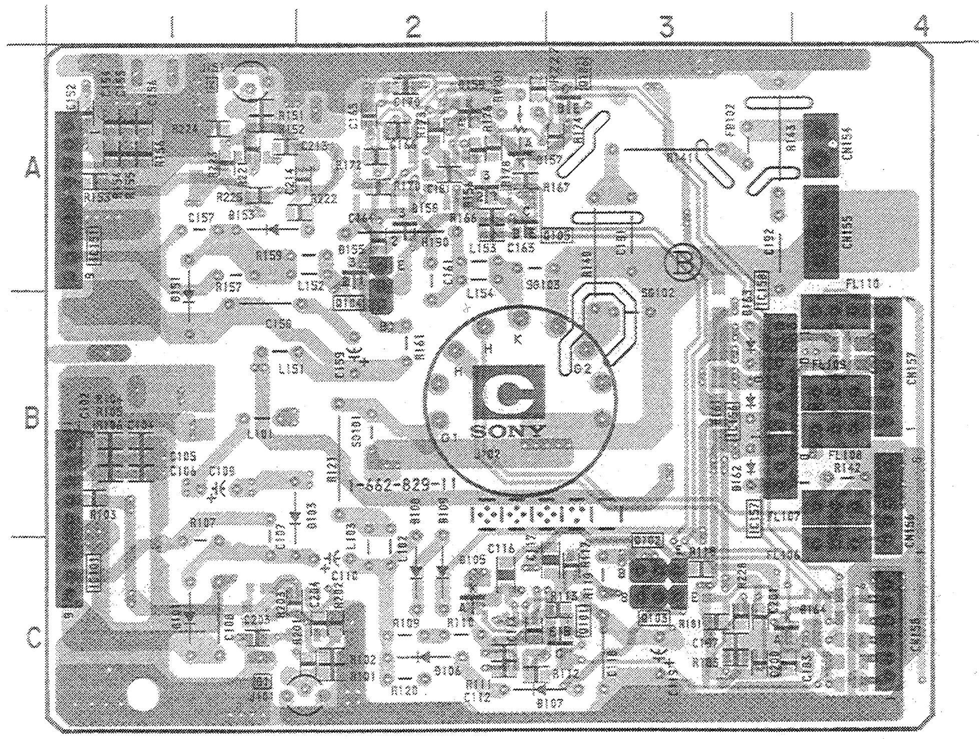
16
17
18
19
20
21
D106 1SS83
L102 0.22µH
R121 47 1/2W :RC
R118 4.7k :RN-CP
R117 82 :CHIP
Q102 2SA1381
Q103 2SC3503
D107 1SS83
D108 1SS83
D109 1SS83
R119 47k :RN
R120 220k
C216 0.1 25V B:CHIP
D165 RD20M
C118 0.01 500V E
C119 10 250V
+150V
+9V
+105V
C161 0.001 500V F
R190 100 1/2W :RC
L153 0.22µH
C169 0.1 25V B:CHIP
+12V
J102
G1
H
SG101
SG102
SG103
C192 0.0047 2kV E
R143 47 1/2W :RC
R140 1k 1/2W :RC
R141 100k 1/2W :RC
FB102 0.45µH
C191 0.0047 2kV E
R142 4.7R
CN155 3P
GND
GND
GND
CHASSIS
CN154 2P
G2
NC
TO PA BOARD
R:CN404
G:CN405
B:CN406
FL106
EMI
CN156 5P
FL107
HEATER +
HEATER -
GND
GND
GND
TO MF BOARD
R:CN202
G:CN201
B:CN203
FL108
CN157 7P
FL109
+105V
+150V
+155V
+105V
NC
+15V
-15V
NC
-180V
TO MF BOARD
R:CN273
G:CN272
B:CN271
+15V
FL110
-180V
-15V
C165 0.1 25V B:CHIP
R171 1.2k :RN-CP
R172 1.2k :RN-CP
R173 10k :CHIP
C167 0.1 25V B:CHIP
D159 RD5.1M
IC153 (1/2) NJM082BM
IC152 NJL5152M0-(T1)
IC153 (2/2) NJM082BM
IK PROT
RV101 2k
R174 680 :CHIP
C168 0.1 25V B:CHIP
C170 0.1 25V B:CHIP
C166 0.1 25V B:CHIP
R170 100 :CHIP
+9V
D161 1SS119
C193 10 16V :CHIP
IC156 NJM78L09A
D162 RD3.9ES
IC157 NJM78L12A
FL111
+12V
C194 22 16V :CHIP
+15V
C181 0.1 25V B:CHIP
IC154 (2/2) NJM082BM
R176 8.2k :RN-CP
R178 1k :CHIP
R177 8.2k :RN-CP
D164 RD10M
IC155 TC4S66F
IN
VCC
OUT
GND
CONT
C183 0.1 25V B:CHIP
D163 1SS119
IC158 NJM79L12A
-12V
C195 22 16V :CHIP
FL112
-15V
-12V
C186 100p CH:CHIP
R180 100 :CHIP
IC159 (2/2) NJM082BM
R179 100 :CHIP
C196 0.1 25V B:CHIP
R181 10k :RN-CP
C197 0.1 25V B:CHIP
TO MF BOARD CN251(R),CN252(G),CN253(B)
TO MF BOARD CN211(R),CN212(G),CN213(B)
TO HV BLOCK
TO PA BOARD CN407
V901(R)
V902(G)
V903(B)
PICTURE TUBE
TO DB BOARD CN247(R),CN245(G),CN243(B)
TO MF BOARD CN263(R),CN264(G),CN265(B)
TO MF BOARD CN221(R),CN222(G),CN223(B)

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

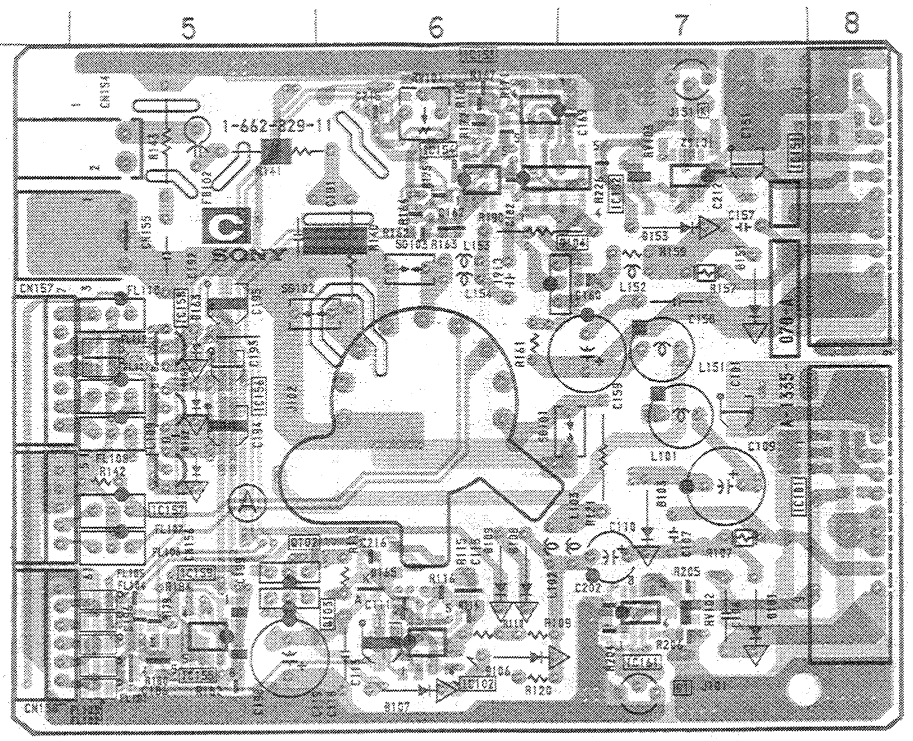
Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

C (R.G.B) (VIDEO OUT) BOARD

— C BOARD — <Conductor side>



— C BOARD — <Component side>



- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

C BOARD
Semiconductors Location

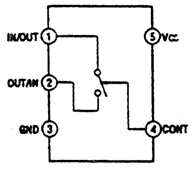
DIODE	
D101	C-1
D103	B-3
D105	C-2
D106	C-2
D107	C-3
D108	C-2
D109	C-2
D151	A-1
D153	A-1
D155	A-2
D157	A-2
D158	A-2
D159	A-2
D161	B-3
D162	B-3
D163	B-3
D164	C-3
D165	C-6
IC	
IC102	C-6
IC151	A-1
IC152	A-7
IC153	A-6
IC154	A-6
IC155	C-5
IC156	B-3
IC157	B-3
IC158	B-3
IC159	C-5
IC161	C-7
IC162	A-7
TRANSISTOR	
Q101	C-3
Q102	C-3
Q103	C-3
Q104	A-2
Q105	A-2
Q106	A-3
VARIABLE RESISTOR	
RV101	A-2
RV102	C-7
RV103	A-7

C BOARD
Function of Semiconductor

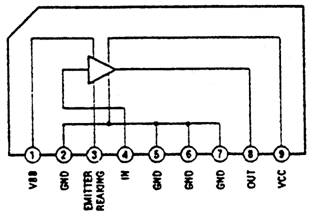
D101	1SS83TD	VIDEO AMP PROTECTOR	IC154	NJM082BM-T1	BUFFER, AMP
D103	1SS83TD	VIDEO AMP PROTECTOR	IC155	TC4S66F-TE85R	SAMPLE HOLD
D105	RD10M-B2	IC102 PROTECTOR	IC156	NJM78L09A	+9V REG.
D106	1SS83TD	BRT CLAMP	IC157	NJM78L12A	+12V REG.
D107	1SS83TD	BRT CLAMP	IC158	NJM79L12A	−12V REG.
D108	1SS83TD	PROTECTOR	IC159	NJM082BM-T1	G2 CONTROL
D109	1SS83TD	PROTECTOR	IC161	EL2160CS-TE2	K AMP.
D151	1SS83TD	VIDEO AMP PROTECTOR	IC162	EL2160CS-TE2	G1 AMP.
D153	1SS83TD	VIDEO AMP PROTECTOR			
D155	1SS123	K DRIVE	Q101	2SK160-K5	BRT SAMPLE HOLD
D156	1SS123	PROTECTOR	Q102	2SA1381-E	BRT CLAMP
D157	RD9.1M-B2	PROTECTOR	Q103	2SC3503-E	BRT CLAMP
D158	1SS123	K DRIVE	Q104	2SA1406-E	IK DETECTOR
D159	RD5.1M-B2	IK DETECTOR	Q105	2SC3545-T44	IK DETECTOR SW
D161	1SS119-25TD	PROTECTOR	Q106	DTC144EKA	IK PROTECTOR
D162	RD3.9ES-B	PROTECTOR			
D163	1SS119-25TD	PROTECTOR			
D164	RD10M-B2	IC155 PROTECTOR			
D165	RD20M-B2	BRT CLAMP			
IC101	VPH06	G1 VIDEO AMP.			
IC102	NJM082BM-T1	BUFFER, BRT CLAMP			
IC151	VPA15H	K VIDEO AMP.			
IC152	NJL5152MD-T1	IK DETECTOR			
IC153	NJM082BM-T1	IK PROTECTOR, IK DETECTOR			

C BOARD IC Block Diagrams

TC4S66F (IC155)



VPH06, VPA15H (IC101, 151)



D BOARD (Conductor side)
Semiconductors Location

DIODE	
D1	F-2
D2	F-3
D3	E-7
D4	F-7
D5	F-6
D6	E-6
D7	E-4
D8	F-5
D9	F-5
D10	F-5
D11	F-5
D12	E-5
D13	C-6
D14	D-4
D15	C-6
D16	E-2
D17	E-3
D18	E-4
D301	D-6
D302	D-6
D303	G-3
D304	D-5
D801	D-3
D802	D-3
D803	B-2
D804	D-2
D805	C-2
D806	A-2
D807	F-1
D808	F-1
D810	C-2
D811	C-2
D812	D-2
D813	B-1
D814	E-2
D819	F-1

IC	
IC1	F-2
IC2	F-3
IC10	F-3
IC11	F-4
IC17	D-6
IC30	C-4
IC35	E-3
IC36	D-3
IC340	D-7
IC801	D-3
IC802	D-3
IC803	A-3
IC806	B-3
IC812	D-2
IC814	B-1
IC816	A-2
IC817	G-2
IC818	G-1

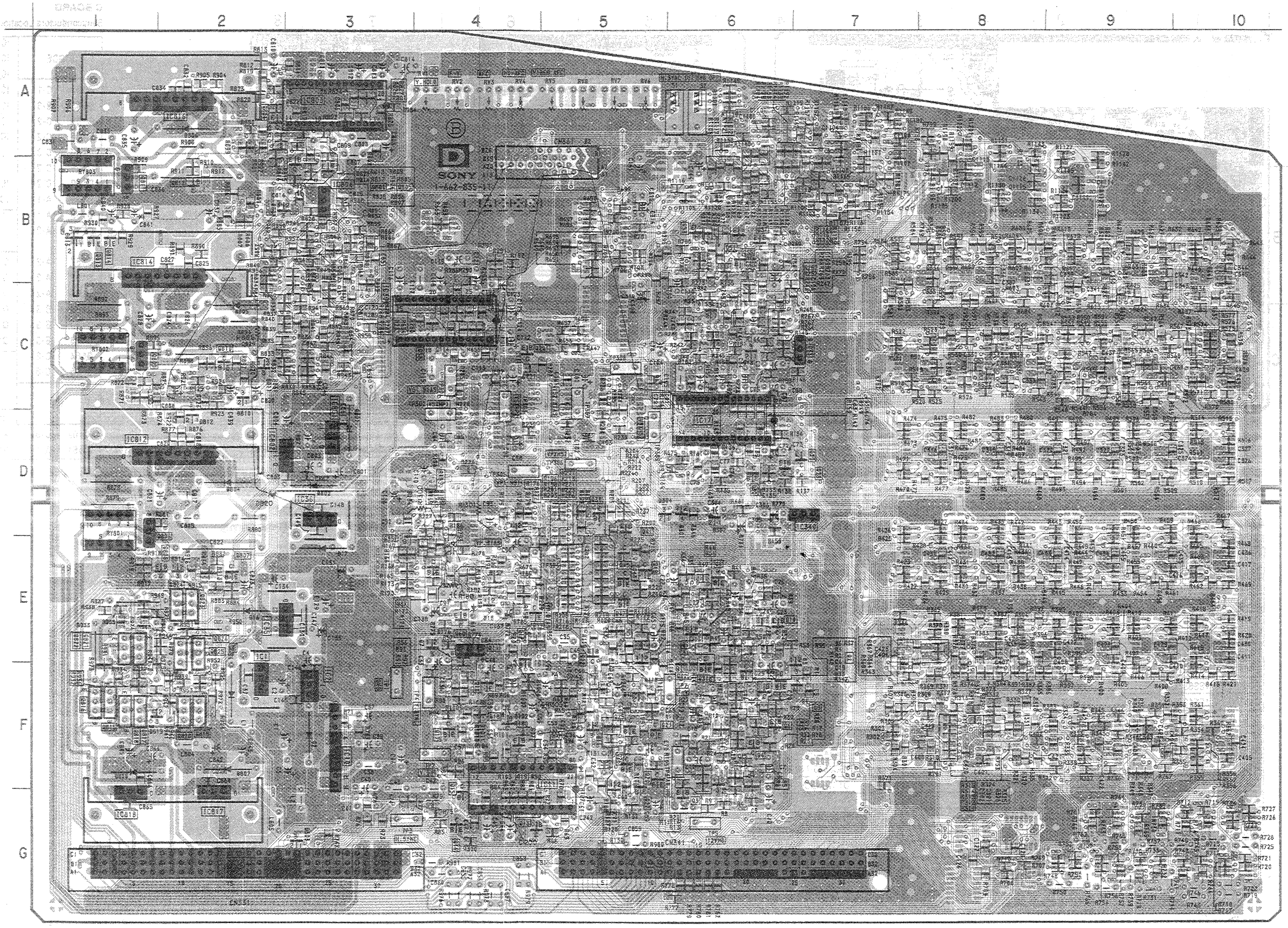
TRANSISTOR	
Q1	F-6
Q2	F-6
Q3	G-6
Q4	F-6
Q5	F-6
Q6	F-6
Q8	E-6
Q9	F-6
Q10	E-6
Q11	E-4
Q12	E-4
Q13	G-4
Q14	G-4
Q15	G-4
Q16	F-4
Q17	F-4
Q18	F-4
Q19	F-4
Q20	F-5
Q21	F-5
Q22	E-5
Q25	F-5
Q26	F-5
Q27	F-5
Q28	D-6
Q29	D-7
Q30	D-6
Q31	F-6
Q32	F-6
Q33	C-7
Q34	E-17
Q35	D-3
Q37	E-4
Q39	D-5
Q41	D-5
Q43	E-5
Q45	E-5
Q47	E-5
Q49	E-5
Q51	B-6
Q53	B-6
Q55	B-6
Q57	B-6
Q58	C-4
Q59	E-4
Q60	E-4
Q201	C-4
Q801	B-3
Q804	A-2
Q805	B-3
Q806	D-1
Q807	E-2
Q808	E-2
Q809	C-1
Q810	C-2
Q811	B-1
Q812	B-2
Q813	B-1
Q814	B-1
Q815	F-1
Q816	F-1
Q817	F-1
Q818	F-1
Q819	F-2
Q820	F-2
Q821	E-1
Q822	E-1
Q823	E-2
Q824	E-2
Q825	E-2
Q826	E-2

VARIABLE RESISTOR	
RV1	A-4
RV2	A-4
RV3	A-4
RV4	A-4
RV5	A-5
RV6	A-5
RV7	A-5
RV8	A-5

TEST POINT	
TP1	F-3
TP2	F-4
TP3	G-3
TP4	F-4
TP5	G-6
TP6	F-6
TP7	F-6
TP301	C-4
TP302	C-4
TP303	C-4
TP304	E-5
TP305	D-4
TP306	D-5
TP307	C-5
TP308	C-5
TP309	D-5

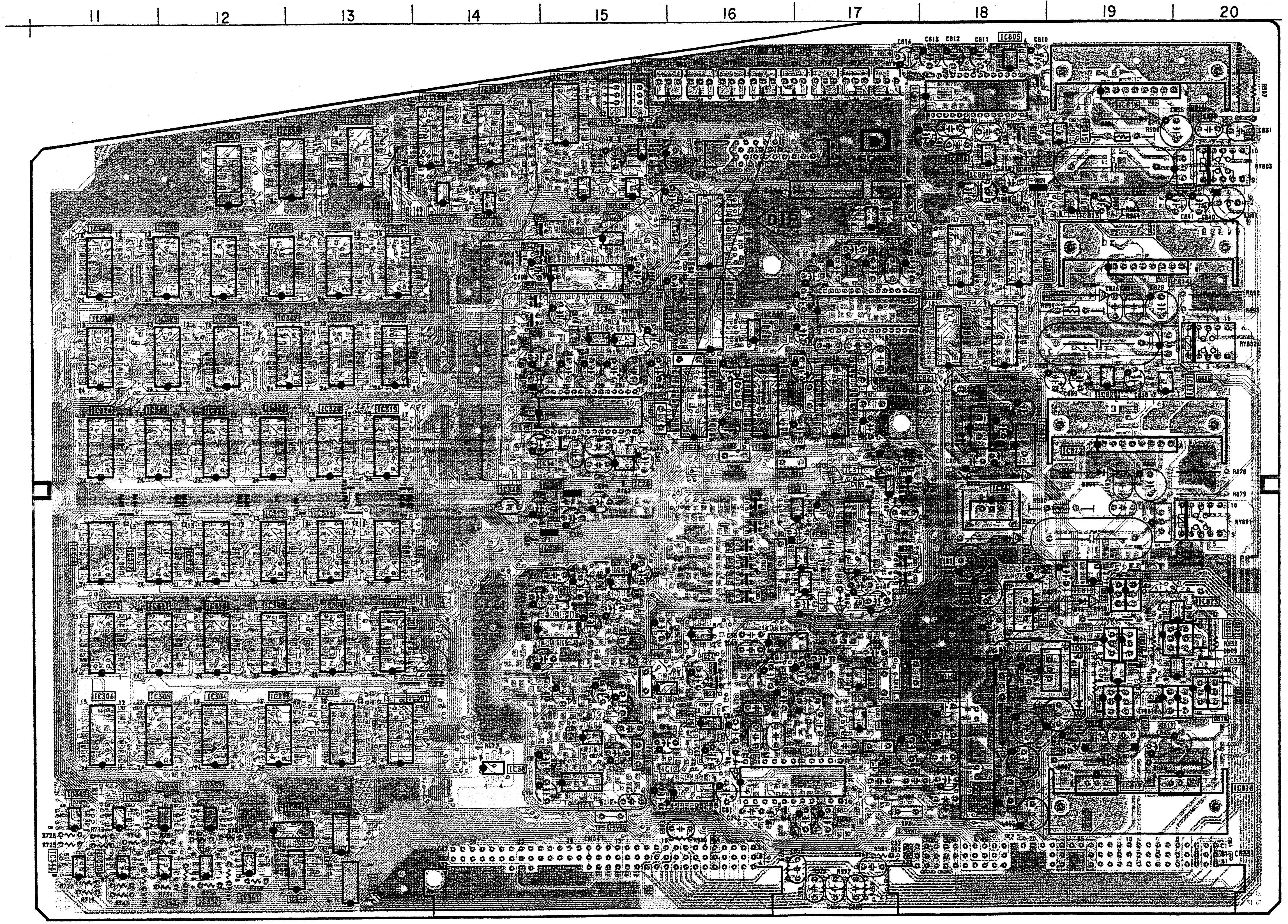
D (HD, VD GENERATOR, ADDRESS DECODER, ZONE ADJ, AQP/DQP AMP, MG H/V AMP, SUB H/V AMP, R.G.B V DY AMP, V WAVEFORM, H.V.SUB BOW/KEY ADJ, R.G.B MOD ADJ, R.G.B MOD AMP) BOARD

— D BOARD — <Conductor side>



- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

— D BOARD — <Component side>



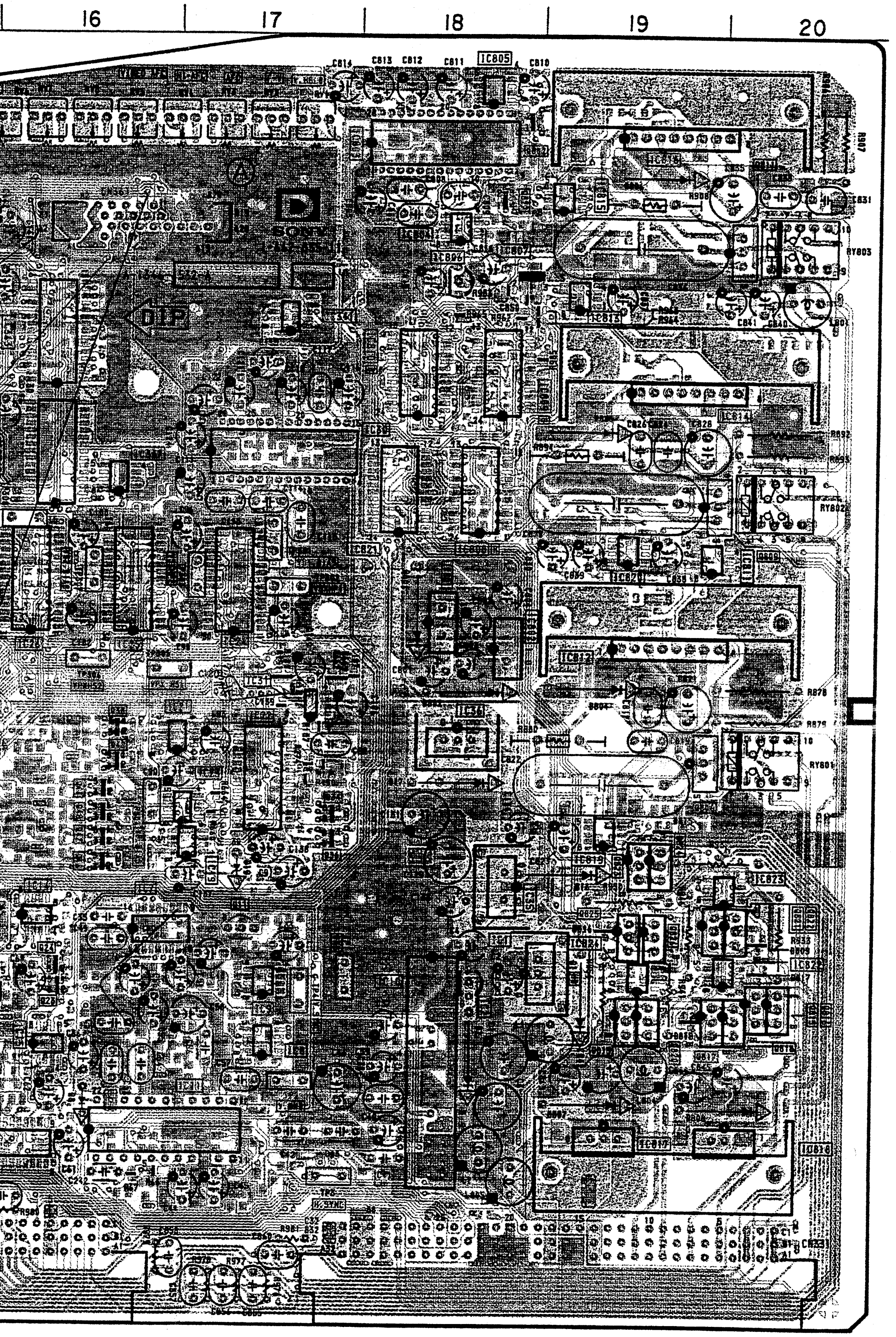
- ⬚: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

D BOARD (Component side)
Semiconductors Location

DIODE	
D809	E-20
D815	E-19
D816	E-19
D817	D-20
D818	F-19

IC	
IC3	G-15
IC4	F-15
IC5	E-15
IC6	E-15
IC7	E-16
IC8	F-17
IC9	F-17
IC12	G-16
IC13	F-15
IC14	E-16
IC15	F-16
IC16	D-15
IC18	C-15
IC19	E-19
IC20	D-15
IC21	D-17
IC22	E-17
IC23	E-17
IC24	D-17
IC25	D-16
IC26	D-16
IC27	C-15
IC28	C-15
IC29	B-15
IC31	D-17
IC32	G-13
IC33	G-13
IC34	G-13
IC37	A-15
IC38	F-14
IC301	F-13
IC302	F-13
IC303	F-12
IC304	F-12
IC305	F-11
IC306	F-11
IC307	E-13
IC308	E-13
IC309	E-12
IC310	E-12
IC311	E-11
IC312	E-11
IC313	E-13
IC314	E-13
IC315	E-12
IC316	E-12
IC317	E-11
IC318	E-11
IC319	D-13
IC320	D-13
IC321	D-12
IC322	D-12
IC323	D-11
IC324	D-11
IC325	C-13
IC326	C-13
IC327	C-13
IC328	C-12
IC329	C-12
IC330	C-11
IC331	B-13
IC332	B-13
IC333	B-12
IC334	B-12
IC335	B-12
IC336	B-11
IC337	C-16
IC338	D-15
IC339	E-15
IC341	B-17
IC342	C-16
IC343	B-16
IC344	G-13
IC345	G-11
IC346	G-11
IC347	G-11
IC348	G-12
IC349	G-12
IC350	G-11
IC351	G-12
IC352	G-12
IC353	G-12
IC354	B-12
IC355	B-13
IC804	B-18
IC805	A-18
IC807	B-18
IC808	C-18
IC809	B-18
IC810	B-18
IC811	C-19
IC813	B-19
IC815	A-19
IC819	E-19
IC820	C-19
IC821	C-18
IC822	F-22
IC823	E-20
IC824	F-19
IC1100	A-15
IC1101	B-14
IC1102	B-15
IC1103	B-13
IC1104	B-15
IC1105	A-14
IC1107	B-14
IC1108	A-14

TRANSISTOR	
Q7	E-15
Q23	F-16
Q24	F-16
Q36	E-17
Q38	D-16
Q40	D-16
Q42	E-16
Q44	E-16
Q46	E-16
Q48	E-16
Q50	C-14
Q52	C-14
Q54	B-15
Q56	B-15
Q802	A-18
Q827	A-18

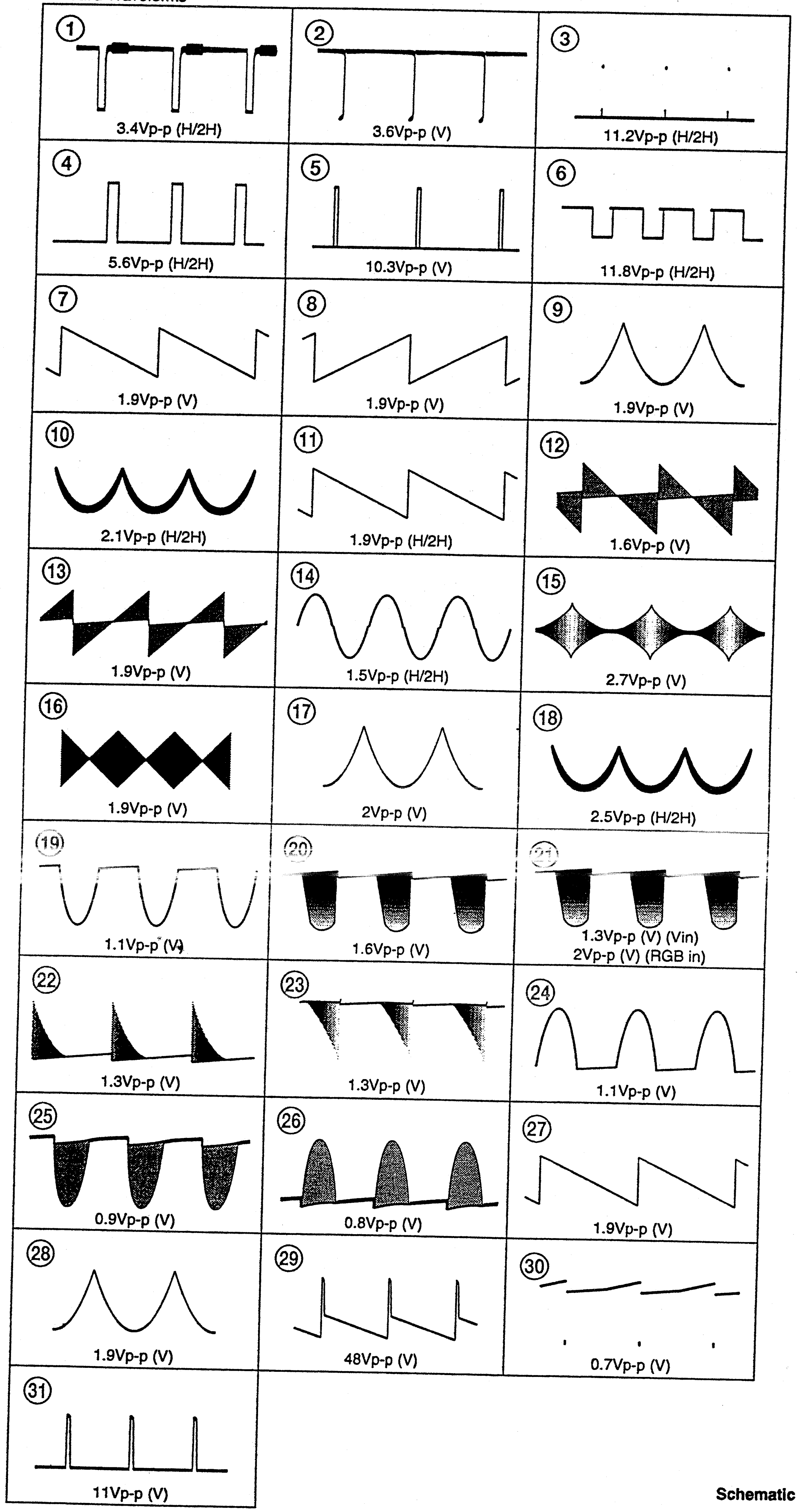


- ░: Pattern from the side which enables seeing.
- ▓: Pattern of the rear side.

D BOARD (Component side)
Semiconductors Location

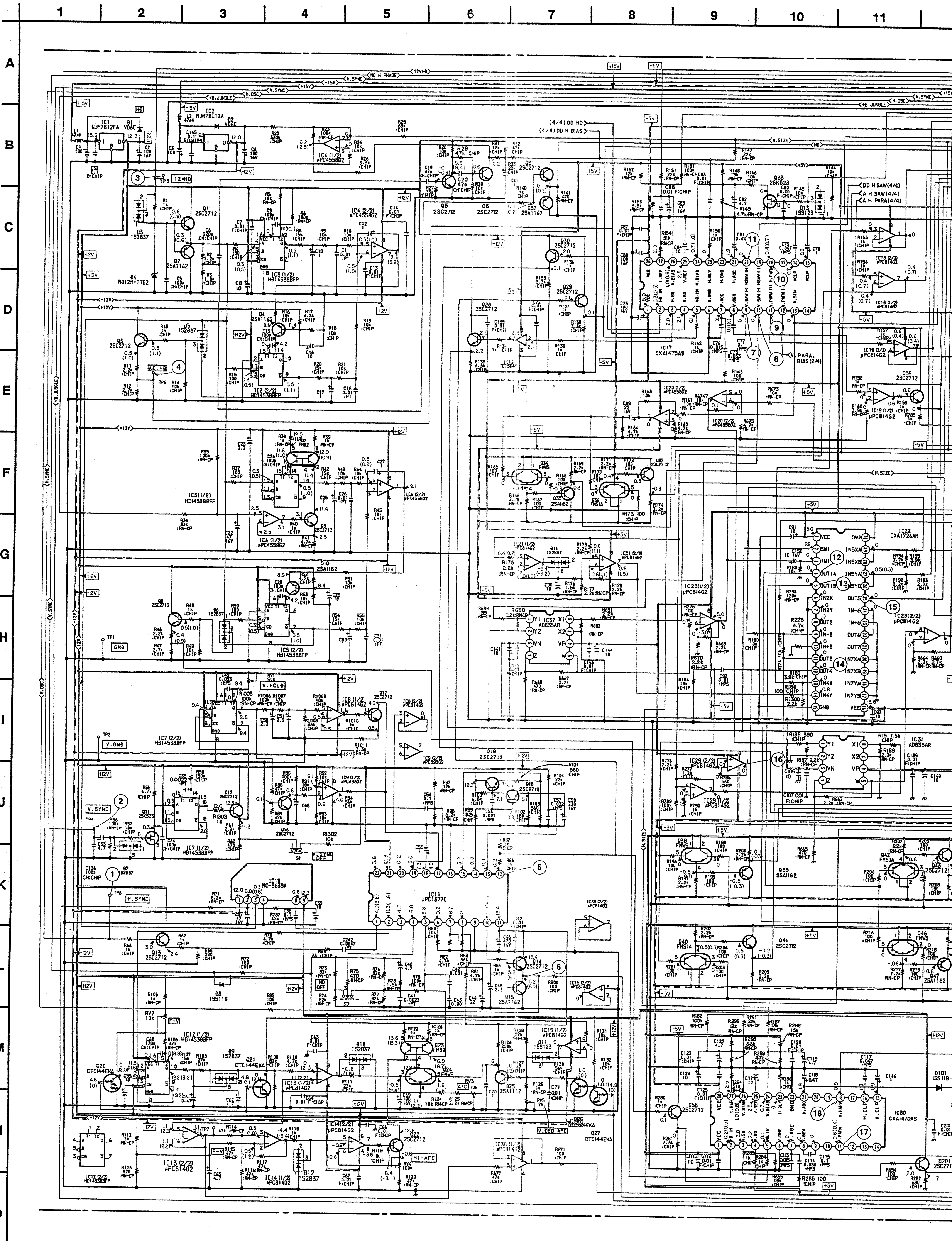
Ref.	Location
DIODE	
D809	E-20
D815	E-19
D816	E-19
D817	D-20
D818	F-19
IC	
IC3	G-15
IC4	F-15
IC5	E-15
IC6	E-15
IC7	E-16
IC8	F-17
IC9	F-17
IC12	G-16
IC13	F-15
IC14	E-16
IC15	F-16
IC16	D-15
IC18	C-15
IC19	E-19
IC20	D-15
IC21	D-17
IC22	E-17
IC23	E-17
IC24	D-17
IC25	D-16
IC26	D-16
IC27	C-15
IC28	C-15
IC29	B-15
IC31	D-17
IC32	G-13
IC33	G-13
IC34	G-13
IC37	A-15
IC38	F-14
IC301	F-13
IC302	F-13
IC303	F-12
IC304	F-12
IC305	F-11
IC306	F-11
IC307	E-13
IC308	E-13
IC309	E-12
IC310	E-12
IC311	E-11
IC312	E-11
IC313	E-13
IC314	E-13
IC315	E-12
IC316	E-12
IC317	E-11
IC318	E-11
IC319	D-13
IC320	D-13
IC321	D-12
IC322	D-12
IC323	D-11
IC324	D-11
IC325	C-13
IC326	C-13
IC327	C-13
IC328	C-12
IC329	C-12
IC330	C-11
IC331	B-13
IC332	B-13
IC333	B-12
IC334	B-12
IC335	B-12
IC336	B-11
IC337	C-16
IC338	D-15
IC339	E-15
IC341	B-17
IC342	C-16
IC343	B-16
IC344	G-13
IC345	G-11
IC346	G-11
IC347	G-11
IC348	G-12
IC349	G-12
IC350	G-11
IC351	G-12
IC352	G-12
IC353	G-12
IC354	B-12
IC355	B-13
IC804	B-18
IC805	A-18
IC807	B-18
IC808	C-18
IC809	B-18
IC810	B-18
IC811	C-19
IC813	B-19
IC815	A-19
IC819	E-19
IC820	C-19
IC821	C-18
IC822	F-22
IC823	E-20
IC824	F-19
IC1100	A-15
IC1101	B-14
IC1102	B-15
IC1103	B-13
IC1104	B-15
IC1105	A-14
IC1107	B-14
IC1108	A-14
TRANSISTOR	
Q7	E-15
Q23	F-16
Q24	F-16
Q36	E-17
Q38	D-16
Q40	D-16
Q42	E-16
Q44	E-16
Q46	E-16
Q48	E-16
Q50	C-14
Q52	C-14
Q54	B-15
Q56	B-15
Q802	A-18
Q827	A-18

D Board Waveforms



Schematic Diagram
D (1/4) board →

- **D (1/4) (HD, VD GENERATOR, ADDRESS DECODER) DIAGRAM**
- Refer to page 4-135 for Printed Wiring Board
- Refer to page 4-139 for Waveforms
- Refer to page 4-152 for Function of Semiconductor
- Refer to page 4-155 for IC Block Diagram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A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
IC1 NJM7812FA
IC2 NJM79L12A
IC3 (1/2) HD14538BFP
IC3 (2/2) HD14538BFP
IC4 (1/2) µPC4558G2
IC4 (2/2) µPC4558G2
IC5 (1/2) HD14538BFP
IC5 (2/2) HD14538BFP
IC6 (1/2) µPC4558G2
IC6 (2/2) µPC4558G2
IC7 (1/2) HD14538BFP
IC7 (2/2) HD14538BFP
IC8 (1/2) µPC814G2
IC8 (2/2) µPC814G2
IC9 (1/2) µPC393G2
IC9 (2/2) µPC393G2
IC10 MC-8639A
IC11 µPC1377C
IC12 (1/2) HD14538BFP
IC12 (2/2) HD14538BFP
IC13 (1/2) µPC814G2
IC13 (2/2) µPC814G2
IC14 (1/2) µPC814G2
IC14 (2/2) µPC814G2
IC15 (1/2) µPC814G2
IC15 (2/2) µPC814G2
IC17 CXA1470AS
IC18 (1/2) µPC814G2
IC18 (2/2) µPC814G2
IC19 (1/2) µPC814G2
IC19 (2/2) µPC814G2
IC20 (1/2) µPC4558G2
IC20 (2/2) µPC4558G2
IC21 (1/2) µPC814G2
IC21 (2/2) µPC814G2
IC22 CXA1726AM
IC23 (1/2) µPC814G2
IC23 (2/2) µPC814G2
IC29 (1/2) µPC814G2
IC29 (2/2) µPC814G2
IC30 CXA1470AS
IC31 AD835AR
IC37 AD835AR
IC38 (1/2) µPC814G2
IC38 (2/2) µPC814G2
H.SYNC
V.SYNC
H.OSC
B.JUNGLE
H.SIZE
MG H PHASE
12VHB
HD
AD.HD
V.HOLD
V.GND
GND
V.SYNC OFF
H1-AFC
VIDEO AFC
HD OFF
(4/4) DD HD
(4/4) DD H BIAS
DD H SAW (4/4)
A.H.SAW (4/4)
A.H.PARA (4/4)
V.PARA. BIAS (2/4)
TP1
TP2
TP3
TP5
TP6
TP7
+15V
-15V
+12V
-12V
+5V
-5V
①
②
③
④
⑤
⑥
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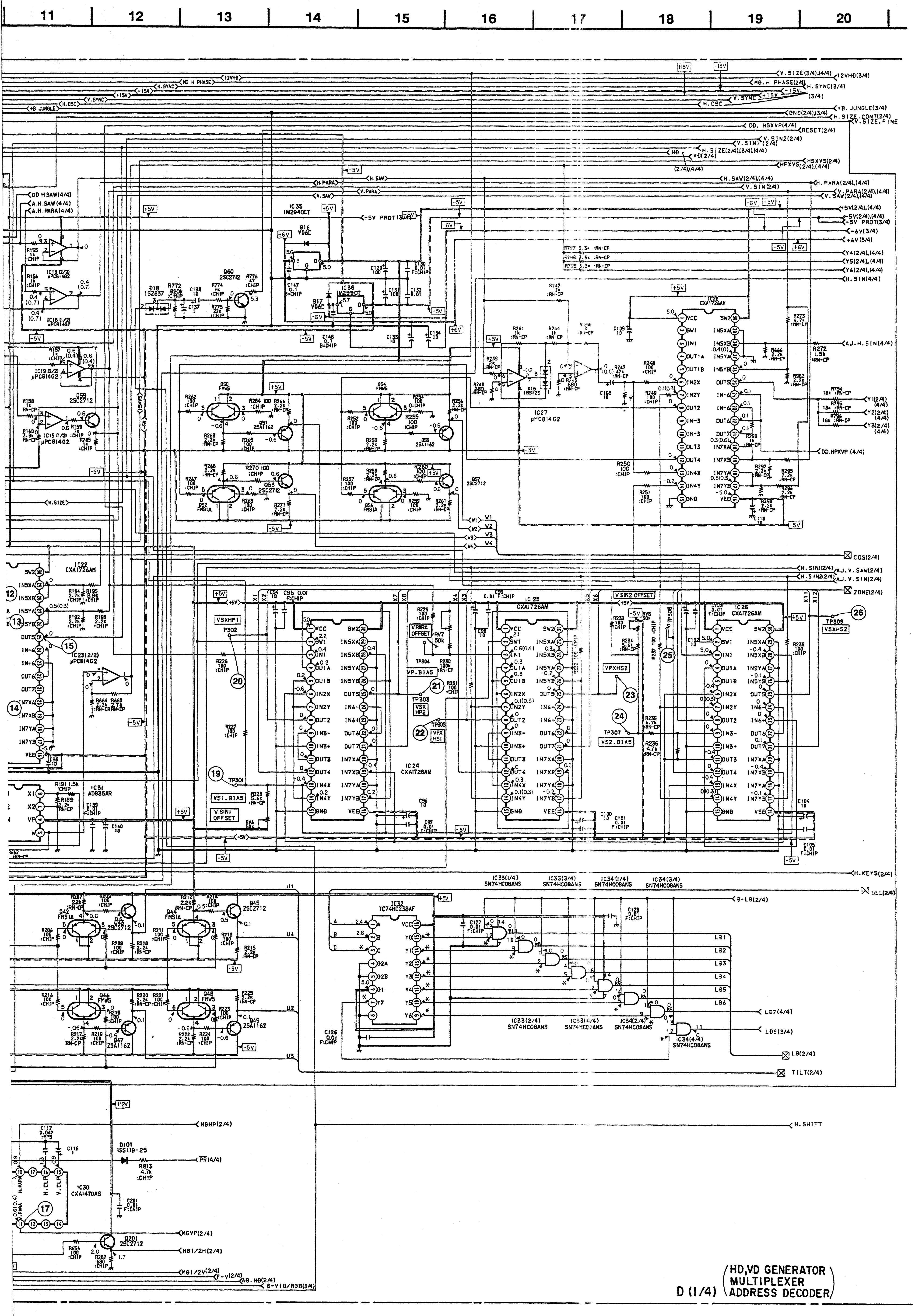
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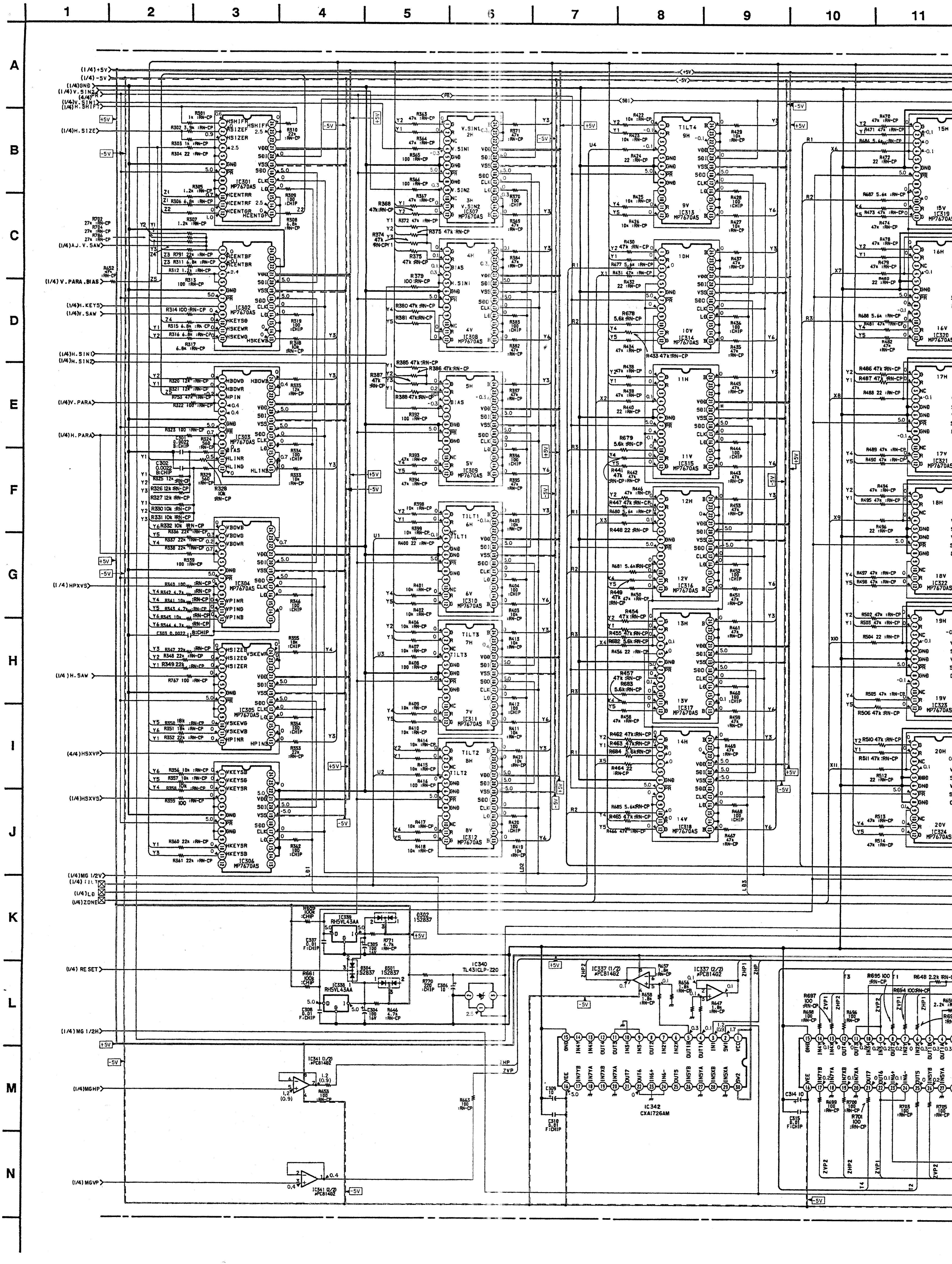
IC18 μPC814G2
IC19 μPC814G2
IC35 IM2940CT
IC36 IM2990T
IC27 μPC814G2
IC28 CXA1726AM
IC22 CXA1726AM
IC23(2/2) μPC814G2
IC31 AD835AR
IC24 CXA1726AM
IC25 CXA1726AM
IC26 CXA1726AM
IC32 TC74HC238AF
IC33(1/4) SN74HC08ANS
IC33(3/4) SN74HC08ANS
IC34(1/4) SN74HC08ANS
IC34(3/4) SN74HC08ANS
IC33(2/4) SN74HC08ANS
IC34(2/4) SN74HC08ANS
IC34(4/4) SN74HC08ANS
IC30 CXA1470AS
Q58 2SC2712
Q60 2SC2712
Q50 FMW5
Q51 2SA1162
Q52 FMS1A
Q53 2SC2712
Q54 FMW5
Q55 2SA1162
Q56 FMS1A
Q57 2SC2712
Q42 FMS1A
Q43 2SC2712
Q44 FMS1A
Q45 2SC2712
Q46 FMW5
Q47 2SA1162
Q48 FMW5
Q49 2SA1162
Q201 2SC2712
D18 1S2837
D15 1SS123
D16 V06C
D17 V06C
D101 1SS119-25
VSXHP1
V51.BIAS
V SIN1 OFFSET
VPARA OFFSET
VP.BIAS
VSX HP2
VPX HS1
VPXHS2
VS2.BIAS
V SIN2 OFFSET
VSXHS2
TP301
TP303
TP304
TP305
TP307
TP308
TP309
RV6 50k
RV7 50k
RV8 50k
V.SIZE(3/4),(4/4)
12VHD(3/4)
MG.H PHASE(2/4)
H.SYNC(3/4)
+B.JUNGLE(3/4)
GND(2/4),(3/4)
H.SIZE.CONT(2/4)
V.SIZE.FINE
DD.HSXVP(4/4)
RESET(2/4)
V.SIN2(2/4)
V.SIN1(2/4)
H.SIZE(2/4),(3/4),(4/4)
V6(2/4)
H5XV5(2/4)
HPXV5(2/4),(4/4)
H.SAW(2/4),(4/4)
V.SIN(2/4)
H.PARA(2/4),(4/4)
V.PARA(2/4),(4/4)
V.SAW(2/4),(4/4)
+5V(2/4),(4/4)
-5V(2/4),(4/4)
-5V PROT(3/4)
-6V(3/4)
+6V(3/4)
Y4(2/4),(4/4)
Y5(2/4),(4/4)
Y6(2/4),(4/4)
H.SIN(4/4)
AJ.H.SIN(4/4)
Y1(2/4)
Y2(2/4)
Y3(2/4)
DD.HPXVP(4/4)
DD H SAW(4/4)
A.H.SAW(4/4)
A.H.PARA(4/4)
CDS(2/4)
H.SIN1(2/4)
AJ.V.SAW(2/4)
H.SIN2(2/4)
AJ.V.SIN(2/4)
ZONE(2/4)
H.KEYS(2/4)
CLL(2/4)
B-LB(2/4)
LB1
LB2
LB3
LB4
LB5
LB6
LB7(4/4)
LB8(3/4)
LB(2/4)
TILT(2/4)
H.SHIFT
MGHP(2/4)
PR(4/4)
MGVP(2/4)
MG1/2H(2/4)
MG1/2V(2/4)
F-V(2/4)
AD.HB(2/4)
B-VID/RGB(3/4)

D (1/4) (HD,VD GENERATOR
MULTIPLEXER
ADDRESS DECODER)

- **D (2/4) (ZONE ADJ, AQP/DQP AMP, MG H/V AMP, SUB H/V AMP) DIAGRAM**
- Refer to page 4-135 for Printed Wiring Board
- Refer to page 4-139 for Waveforms
- Refer to page 4-152 for Function of Semiconductor
- Refer to page 4-155 for IC Block Diagram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A
B
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D
E
F
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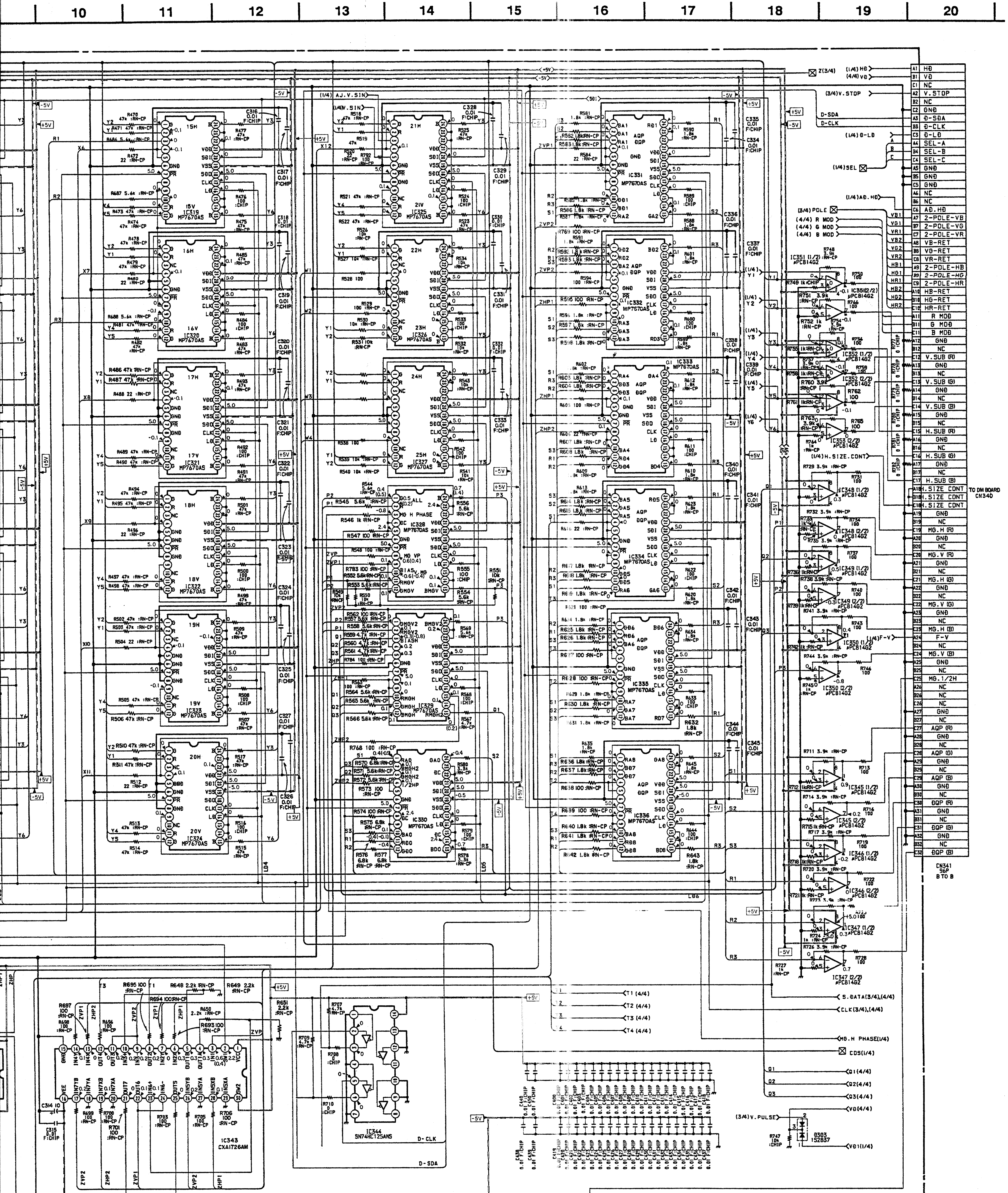
H
I
J
K
L
M
N
(1/4)+5V
(1/4)-5V
(1/4)GND
(1/4)V.SIN2
(1/4)V.SIN1
(1/4)H.SHIFT
(1/4)H.SIZE
(1/4)AJ.V.SAW
(1/4)V.PARA.BIAS
(1/4)H.KEYS
(1/4)V.SAW
(1/4)H.SIN1
(1/4)H.SIN2
(1/4)V.PARA
(1/4)H.PARA
(1/4)HPXVS
(1/4)H.SAW
(4/4)H5XVP
(1/4)H5XVS
(1/4)MG 1/2V
(1/4)TILT
(1/4)LD
(1/4)ZONE
(1/4)RESET
(1/4)MG 1/2H
(1/4)MGHP
(1/4)MGVP
IC301 MP7670AS
IC302 MP7670AS
IC303 MP7670AS
IC304 MP7670AS
IC305 MP7670AS
IC306 MP7670AS
IC307 MP7670AS
IC308 MP7670AS
IC309 MP7670AS
IC310 MP7670AS
IC311 MP7670AS
IC312 MP7670AS
IC313 MP7670AS
IC314 MP7670AS
IC315 MP7670AS
IC316 MP7670AS
IC317 MP7670AS
IC318 MP7670AS
IC319 MP7670AS
IC320 MP7670AS
IC321 MP7670AS
IC322 MP7670AS
IC323 MP7670AS
IC324 MP7670AS
IC336 RH5VL43AA
IC338 RH5VL43AA
IC340 TL431CLP-Z20
IC337 (1/2) μPC81462
IC337 (2/2) μPC81462
IC341 (1/2) μPC81462
IC341 (2/2) μPC81462
IC342 CXA1726AM
D301 1S2837
D302 1S2837
D304 1S2837
L01
L02
L03
ZHP
ZVP
+5V
-5V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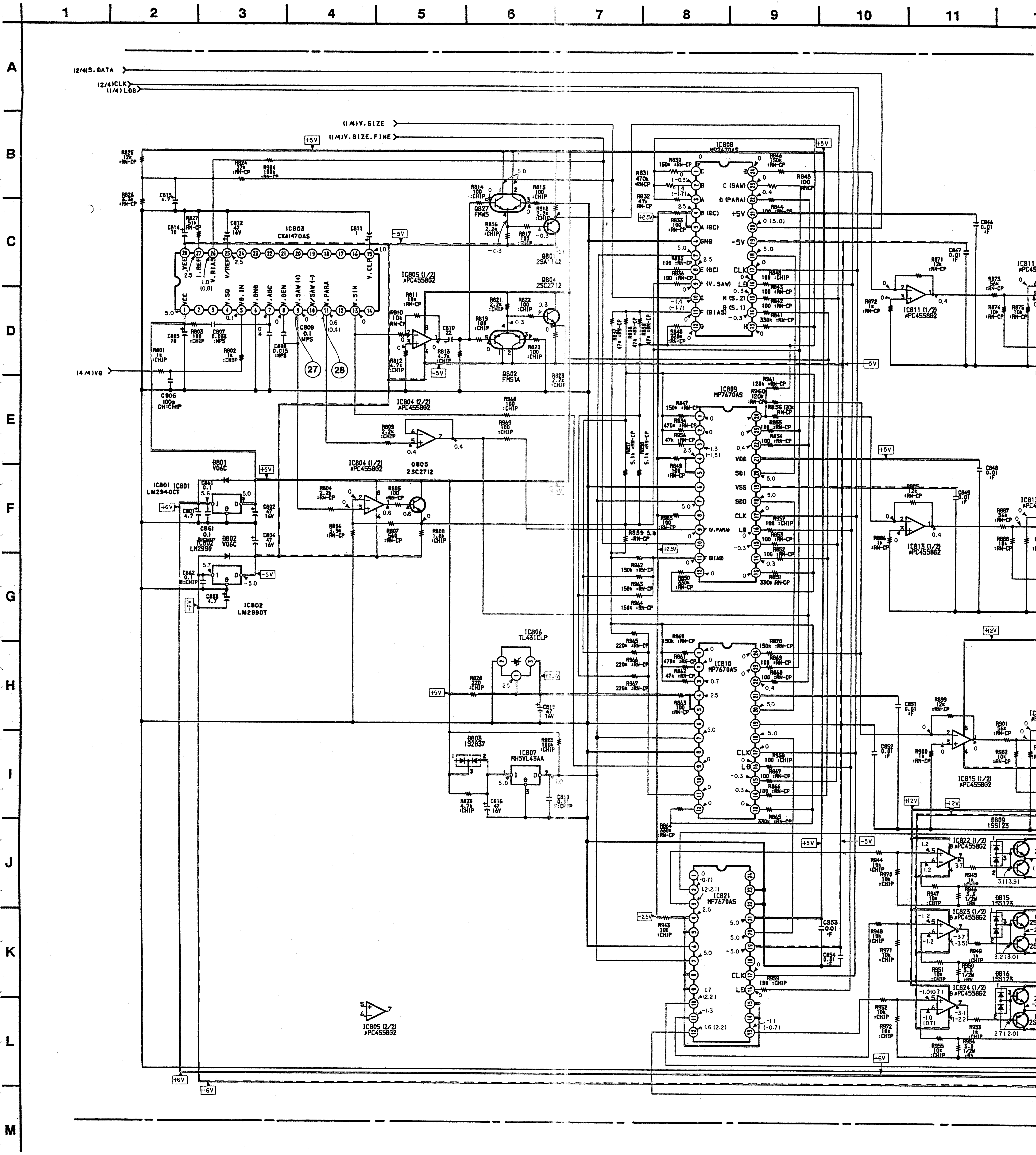
IC319 MP7670AS
IC320 MP7670AS
IC321 MP7670AS
IC322 MP7670AS
IC323 MP7670AS
IC324 MP7670AS
IC325 MP7670AS
IC326 MP7670AS
IC327 MP7670AS
IC328 MP7670AS
IC329 MP7670AS
IC330 MP7670AS
IC331 MP7670AS
IC332 MP7670AS
IC333 MP7670AS
IC334 MP7670AS
IC335 MP7670AS
IC336 MP7670AS
IC343 CXA1726AM
IC344 SN74HC125ANS
IC345 µPC814G2
IC346 µPC814G2
IC347 µPC814G2
IC348 µPC814G2
IC349 µPC814G2
IC350 µPC814G2
IC351 µPC814G2
IC352 µPC814G2
IC353 µPC814G2
MG H PHASE
MG VP
ALL
AQP
DQP
(1/4) A.J.V.SIN
(1/4) V.SIN
(1/4) HD
(4/4) VD
(3/4) V.STOP
D-SDA
D-CLK
(1/4) D-LD
(1/4) SEL
(1/4) AD.HD
(3/4) POLE
(4/4) R MOD
(4/4) G MOD
(4/4) B MOD
(1/4) H.SIZE CONT
(1/4) F-V
T1 (4/4)
T2 (4/4)
T3 (4/4)
T4 (4/4)
S.DATA (3/4),(4/4)
CLK (3/4),(4/4)
MG.H PHASE (1/4)
CDS (1/4)
Q1 (4/4)
Q2 (4/4)
Q3 (4/4)
VD (4/4)
(3/4) V.PULSE
VD1 (1/4)
D303 1SS837
D-CLK
D-SDA
TO DM BOARD CN340
CN341 96P B TO B
A1 HD
B1 VD
C1 NC
A2 V.STOP
B2 NC
C2 GND
A3 D-SDA
B3 D-CLK
C3 D-LD
A4 SEL-A
B4 SEL-B
C4 SEL-C
A5 GND
B5 GND
C5 GND
A6 NC
B6 NC
C6 AD.HD
A7 2-POLE-VB
B7 2-POLE-VG
C7 2-POLE-VR
A8 VB-RET
B8 VG-RET
C8 VR-RET
A9 2-POLE-HB
B9 2-POLE-HG
C9 2-POLE-HR
A10 HB-RET
B10 HG-RET
C10 HR-RET
A11 R MOD
B11 G MOD
C11 B MOD
A12 GND
B12 NC
C12 V.SUB (R)
A13 GND
B13 NC
C13 V.SUB (G)
A14 GND
B14 NC
C14 V.SUB (B)
A15 GND
B15 NC
C15 H.SUB (R)
A16 GND
B16 NC
C16 H.SUB (G)
A17 GND
B17 NC
C17 H.SUB (B)
A18 H.SIZE CONT
B18 H.SIZE CONT
C18 H.SIZE CONT
A19 GND
B19 NC
C19 MG.H (R)
A20 GND
B20 NC
C20 MG.V (R)
A21 GND
B21 NC
C21 MG.H (G)
A22 GND
B22 NC
C22 MG.V (G)
A23 GND
B23 NC
C23 MG.H (B)
A24 F-V
B24 NC
C24 MG.V (B)
A25 GND
B25 NC
C25 MG.1/2H
A26 NC
B26 NC
C26 NC
A27 GND
B27 NC
C27 AQP (R)
A28 GND
B28 NC
C28 AQP (G)
A29 GND
B29 NC
C29 AQP (B)
A30 GND
B30 NC
C30 DQP (R)
A31 GND
B31 NC
C31 DQP (G)
A32 GND
B32 NC
C32 DQP (B)

D (2/4) (ZONE ADJUST, AQP/DQP AMP, MG H/V AMP, SUB H/V AMP)

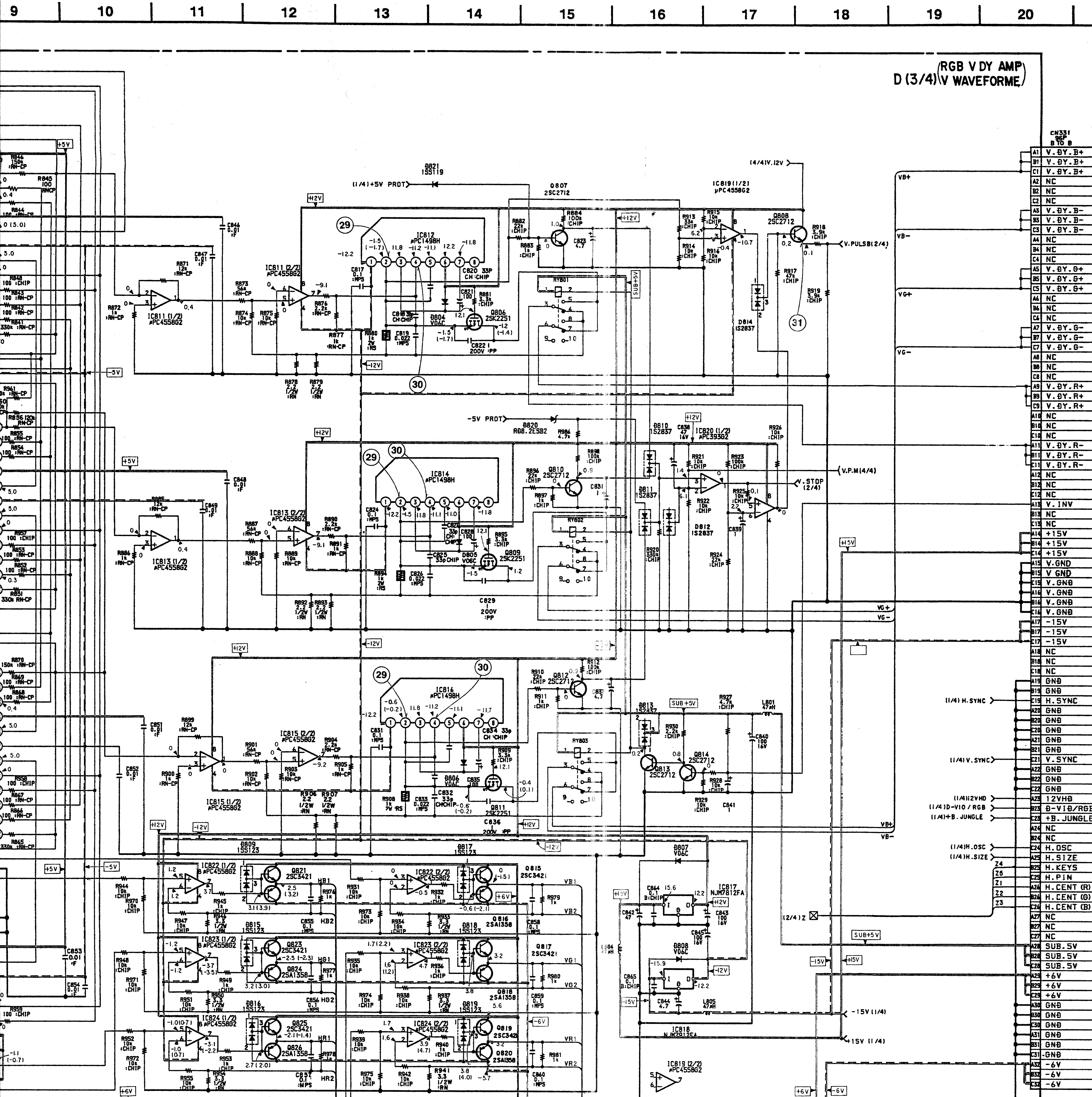
Schematic Diagram

D (3/4) board ➡

- **D (3/4) (R.G.B V DY AMP, V WAVEFORM) DIAGRAM**
- Refer to page 4-135 for Printed Wiring Board
- Refer to page 4-139 for Waveforms
- Refer to page 4-152 for Function of Semiconductor
- Refer to page 4-155 for IC Block Diagram



(2/4)S.DATA
(2/4)CLK
(1/4)LDD
(1/4)V.SIZE
(1/4)V.SIZE.FINE
(4/4)VD
IC803 CXA1470AS
IC805 (1/2) μPC4558G2
IC805 (2/2) μPC4558G2
IC804 (1/2) μPC4558G2
IC804 (2/2) μPC4558G2
IC801 LM2940CT
IC802 LM2990T
IC806 TL431CLP
IC807 RH5VL43AA
IC808 MP7670AS
IC809 MP7670AS
IC810 MP7670AS
IC821 MP7670AS
IC811 (1/2) μPC4558G2
IC813 (1/2) μPC4558G2
IC815 (1/2) μPC4558G2
IC822 (1/2) μPC4558G2
IC823 (1/2) μPC4558G2
IC824 (1/2) μPC4558G2
Q801 2SA1162
Q802 FMS1A
Q804 2SC2712
Q805 2SC2712
Q827 FMW5
D801 V06C
D802 V06C
D803 1SS237
D809 1SS123
D815 1SS123
D816 1SS123
+5V
-5V
+6V
-6V
+12V
-12V
+2.5V
27
28


D (3/4) RGB V DY AMP
V WAVEFORME
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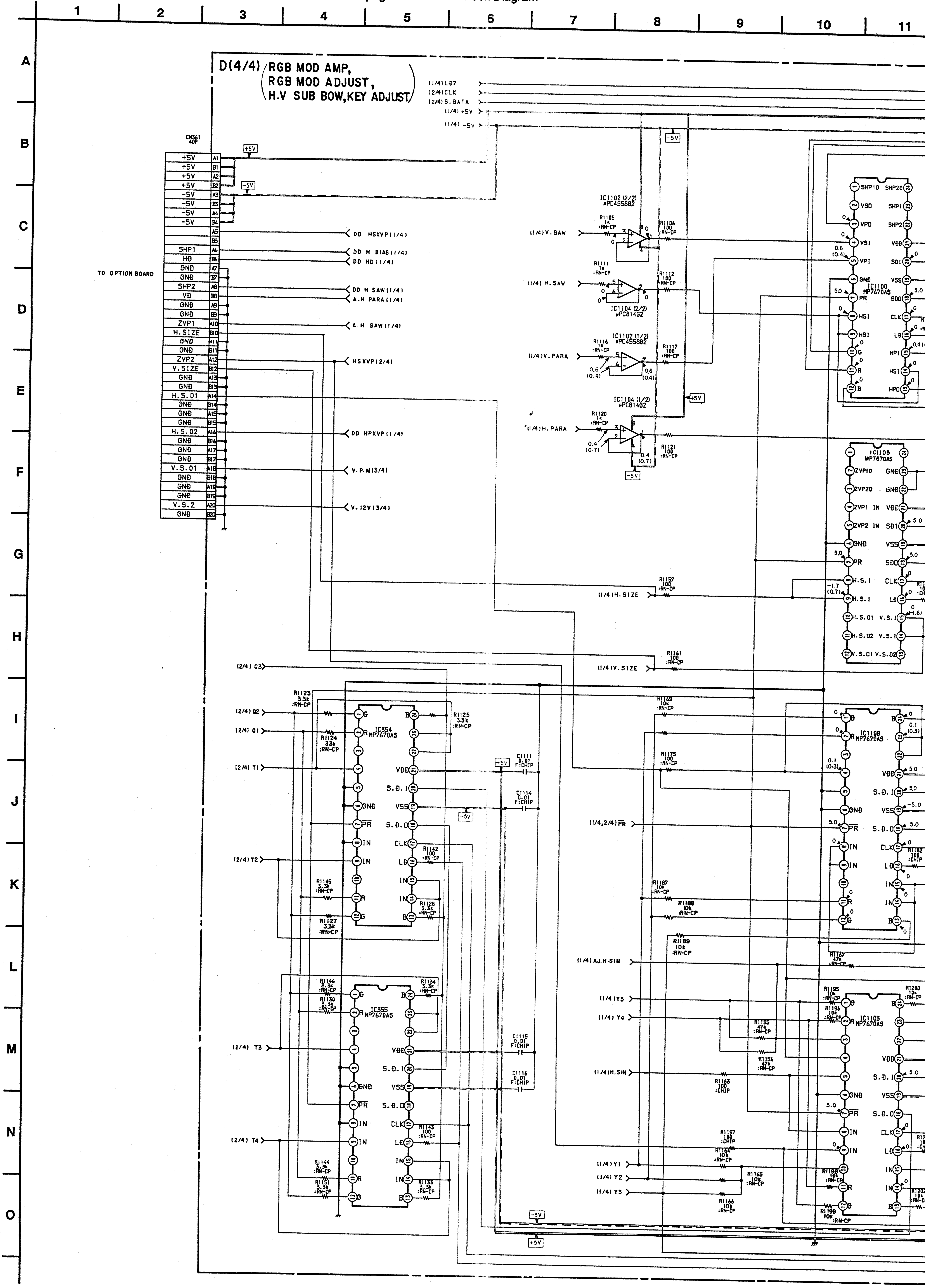
CN331
IC811 μPC4558G2
IC812 μPC1498H
IC813 μPC4558G2
IC814 μPC1498H
IC815 μPC4558G2
IC816 μPC1498H
IC817 NJM7812FA
IC818 NJM7912FA
IC819 μPC4558G2
IC820 μPC393G2
IC822 μPC4558G2
IC823 μPC4558G2
IC824 μPC4558G2
Q807 2SC2712
Q808 2SC2712
Q810 2SC2712
Q812 2SC2712
Q813 2SC2712
Q814 2SC2712
Q809 2SK2251
Q811 2SK2251
RY801
RY802
RY803
(1/4)+5V PROT
-5V PROT
V.PULSB(2/4)
V.P.M(4/4)
V.STOP (2/4)
(1/4) H.SYNC
(1/4) V.SYNC
-15V (1/4)
+15V (1/4)
+6V (1/4)
-6V (1/4)
(1/4)GND
POLE (2/4)
V.DY.B+
V.DY.B-
V.DY.G+
V.DY.G-
V.DY.R+
V.DY.R-
V.INV
+15V
V.GND
-15V
GND
H.SYNC
V.SYNC
12VHD
B-VID/RGB
+B.JUNGLE
H.OSC
H.SIZE
H.KEYS
H.PIN
H.CENT (R)
H.CENT (G)
H.CENT (B)
SUB.5V
+6V
-6V
NC

• D (4/4) (H.V.SUB BOW/KEY ADJ, R.G.B MOD ADJ, R.G.B MOD AMP) DIAGRAM

- Refer to page 4-135 for Printed Wiring Board
- Refer to page 4-139 for Waveforms
- Refer to page 4-152 for Function of Semiconductor
- Refer to page 4-155 for IC Block Diagram



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A
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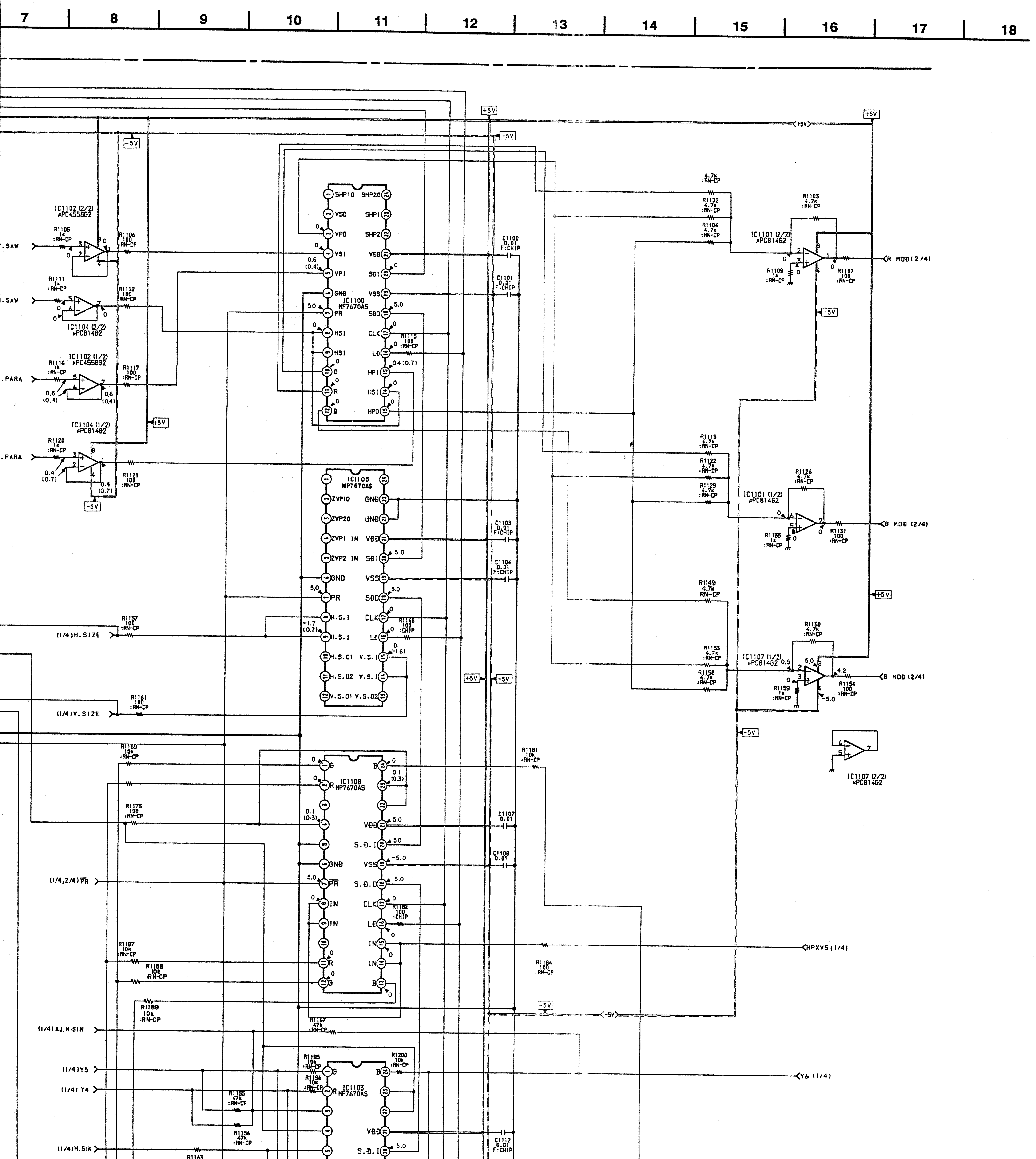
J
K
L
M
N
O
D(4/4) RGB MOD AMP, RGB MOD ADJUST, H.V SUB BOW,KEY ADJUST
(1/4)LD7
(2/4)CLK
(2/4)S.DATA
(1/4) +5V
(1/4) -5V
CN361 40P
TO OPTION BOARD
+5V
-5V
SHP1
HD
GND
SHP2
VD
ZVP1
H.SIZE
ZVP2
V.SIZE
H.S.01
H.S.02
V.S.01
V.S.2
DD HSXVP(1/4)
DD H BIAS(1/4)
DD HD(1/4)
DD H SAW(1/4)
A.H PARA(1/4)
A.H SAW(1/4)
HSXVP(2/4)
DD HPXVP(1/4)
V.P.M(3/4)
V.12V(3/4)
IC1102 (2/2) μPC4558G2
IC1104 (2/2) μPC1462
IC1102 (1/2) μPC4558G2
IC1104 (1/2) μPC1462
(1/4)V.SAW
(1/4) H.SAW
(1/4)V.PARA
(1/4)H.PARA
(1/4)H.SIZE
(1/4)V.SIZE
IC1100 MP7670AS
IC1105 MP7670AS
IC1108 MP7670AS
IC1103 MP7670AS
IC354 MP7670AS
IC355 MP7670AS
(2/4) Q3
(2/4) Q2
(2/4) Q1
(2/4) T1
(2/4) T2
(2/4) T3
(2/4) T4
(1/4,2/4)PR
(1/4)AJ.H-SIN
(1/4)Y5
(1/4) Y4
(1/4)H.SIN
(1/4) Y1
(1/4) Y2
(1/4) Y3
R1105 1k :RN-CP
R1106 100 :RN-CP
R1111 1k :RN-CP
R1112 100 :RN-CP
R1116 1k :RN-CP
R1117 100 :RN-CP
R1120 1k :RN-CP
R1121 100 :RN-CP
R1157 100 :RN-CP
R1161 100 :RN-CP
R1123 3.3k :RN-CP
R1124 33k :RN-CP
R1125 3.3k :RN-CP
R1127 3.3k :RN-CP
R1128 3.3k :RN-CP
R1142 100 :RN-CP
R1145 3.3k :RN-CP
C1111 0.01 F:CHIP
C1114 0.01 F:CHIP
C1115 0.01 F:CHIP
C1116 0.01 F:CHIP
R1146 3.3k :RN-CP
R1130 3.3k :RN-CP
R1134 3.3k :RN-CP
R1143 100 :RN-CP
R1133 3.3k :RN-CP
R1144 3.3k :RN-CP
R1151 3.3k :RN-CP
R1169 10k :RN-CP
R1175 100 :RN-CP
R1187 10k :RN-CP
R1188 10k :RN-CP
R1189 10k :RN-CP
R1155 47k :RN-CP
R1156 47k :RN-CP
R1163 100 :CHIP
R1197 100 :CHIP
R1164 10k :RN-CP
R1165 10k :RN-CP
R1166 10k :RN-CP
R1167 47k :RN-CP
R1195 10k :RN-CP
R1196 10k :RN-CP
R1198 10k :RN-CP
R1199 10k :RN-CP
R1200 10k :RN-CP
R1182 100 :CHIP
SHP10
SHP20
VSO
SHP1
VPO
SHP2
VSI
VDD
VPI
SDI
GND
VSS
PR
SDO
HSI
CLK
LD
HPI
G
R
B
HPO
ZVP10
ZVP20
ZVP1 IN
ZVP2 IN
H.S.I
H.S.01
V.S.I
H.S.02
V.S.01
V.S.02
S.D.I
S.D.O
IN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+5V
-5V
IC1102 (2/2) μPC4558G2
IC1104 (2/2) μPC814G2
IC1102 (1/2) μPC4558G2
IC1104 (1/2) μPC814G2
.SAW
.SAW
.PARA
.PARA
IC1100 MP7670AS
SHP10
SHP20
VSO
SHP1
VPO
SHP2
VSI
VDD
VPI
SDI
GND
VSS
PR
SDO
HSI
CLK
LD
G
HPI
R
B
HPO
IC1105 MP7670AS
ZVPIO
ZVP2O
ZVP1 IN
ZVP2 IN
H.S.I
H.S.O1
H.S.O2
V.S.O1
V.S.I
V.S.O2
(1/4)H.SIZE
(1/4)V.SIZE
IC1108 MP7670AS
S.D.I
S.D.O
IN
(1/4,2/4)PR
(1/4)AJ.H-SIN
IC1103 MP7670AS
(1/4)Y5
(1/4) Y4
(1/4)H.SIN
(1/4)Y1
(1/4) Y2
(1/4) Y3
C1100 0.01 F:CHIP
C1101 0.01 F:CHIP
C1103 0.01 F:CHIP
C1104 0.01 F:CHIP
C1107 0.01
C1108 0.01
C1112 0.01 F:CHIP
C1113 0.01 F:CHIP
R1181 10k :RN-CP
R1184 100 :RN-CP
IC1101 (2/2) μPC814G2
IC1101 (1/2) μPC814G2
IC1107 (1/2) μPC814G2
IC1107 (2/2) μPC814G2
R MOD (2/4)
G MOD (2/4)
B MOD (2/4)
HPXVS (1/4)
Y6 (1/4)
<+5V>
<-5V>

D BOARD

Function of Semiconductor (1/3)

D1	V06C	REG PROTECTOR-1	IC18	uPC814G2-T1	H SAW/PARA BUFFER
D2	V06C	REG PROTECTOR-2	IC19	uPC814G2-T1	V PARA/SAW BUFFER
D3	1S2837	SPEED UP-1	IC20	uPC4558G2-T2	V SIN AMP
D4	RD12M-B2		IC21	uPC814G2-T1	H SIN CONVERTER
D5	1S2837	AD HD SW	IC22	CXA1726AM-T6	MULTIPLEX
D6	1S2837	MG HD SW	IC23	uPC814G2-T1	REGI BUFFER
D7	1S2837	V SYNC CLAMP	IC24	CXA1726AM-T6	REGI MULTIPLEX-1
D8	1SS119-25TD	H OUT PROTECTOR	IC25	CXA1726AM-T6	REGI MULTIPLEX-2
D9	1S2837	SPEED UP-2	IC26	CXA1726AM-T6	REGI MULTIPLEX-3
D10	1S2837	SPEED UP-3	IC27	uPC814G2-T1	H SOW CONVERTER
D11	1SS123	LEVEL SHIFT	IC28	CXA1726AM-T6	REGI MULTIPLEX-4
D12	1S2837	LIMITER-1	IC29	uPC814G2-T1	REGI BUFFER
D13	1SS123	LIMITER-2	IC30	CXA1470AS	MG WAVE FORM
D14	1S2837	PEEK HOLD-1	IC31	AD835AR	
D15	1SS123	V SIZE LIMITER	IC32	TC74HC238AF-VEL	ADDRESS-DEC-1
D16	V06C	REG PROTECTOR-3	IC33	SN74HC08ANS-E05	ADDRESS-DEC-2
D17	V06C	REG PROTECTOR-4	IC34	SN74HC08ANS-E05	ADDRESS-DEC-3
D18	1S2837	PEED HOLD-2	IC35	LM2940CT-5.0	+5V REG-1
D301	1S2837	DISCHARGE-1	IC36	LM2990T-5.0	–5V REG-2
D302	1S2837	DISCHARGE-2	IC37	AD835AR	
D303	1S2837	VD OR	IC38	uPC814G2-T1	
D304	1S2837	RESET	IC301	MP7670AS-TE2	H SIZE, CENT ADJ
D801	V06C	REG PROTECTOR-5	IC302	MP7670AS-TE2	H SKW ADJ
D802	V06C	REG PROTECTOR-6	IC303	MP7670AS-TE2	H BOW/LIN ADJ
D803	1S2837	DISCHARGE-3	IC304	MP7670AS-TE2	V BOW/PIN ADJ
D804	V06C	PULSE CHARGE-1	IC305	MP7670AS-TE2	H SIZE/V SKW ADJ
D805	V06C	PULSE CHARGE-2	IC306	MP7670AS-TE2	KEYS ADJ
D806	V06C	PULSE CHARGE-3	IC307	MP7670AS-TE2	ZONE 2, 3 ADJ
D807	V06C	REG PROTECTOR-7	IC308	MP7670AS-TE2	V CENT/ZONE 4 ADJ
D808	V06C	REG PROTECTOR-8	IC309	MP7670AS-TE2	ZONE 5 ADJ
D809	1SS123		IC310	MP7670AS-TE2	ZONE 6 ADJ
D810	1S2837	GATE-1	IC311	MP7670AS-TE2	ZONE 7 ADJ
D811	1S2837	GATE-2	IC312	MP7670AS-TE2	ZONE 8 ADJ
D812	1S2837	GATE-3	IC313	MP7670AS-TE2	ZONE 9 ADJ
D813	1S2837	RY PROTECTOR	IC314	MP7670AS-TE2	ZONE 10 ADJ
D814	1S2837	GEATE-4	IC315	MP7670AS-TE2	ZONE 11 ADJ
D815	1SS123		IC316	MP7670AS-TE2	ZONE 12 ADJ
D816	1SS123		IC317	MP7670AS-TE2	ZONE 13 ADJ
D817	1SS123		IC318	MP7670AS-TE2	ZONE 14 ADJ
D818	1SS123		IC319	MP7670AS-TE2	ZONE 15 ADJ
D819	1SS123		IC320	MP7670AS-TE2	ZONE 16 ADJ
			IC321	MP7670AS-TE2	ZONE 17 ADJ
IC1	NJM7812FA	+12V REG-1	IC322	MP7670AS-TE2	ZONE 18 ADJ
IC2	NJM79L12A-T1	–12V REG-1	IC323	MP7670AS-TE2	ZONE 19 ADJ
IC3	HD14538BFP-TL	AD HD GEN	IC324	MP7670AS-TE2	ZONE 20 ADJ
IC4	uPC4558G2-T2	AD COMPARATOR	IC325	MP7670AS-TE2	ZONE 21 ADJ
IC5	HD14538BFP-TL	MG HD GENERATOR	IC326	MP7670AS-TE2	ZONE 22, 23 ADJ
IC6	uPC4558G2-T2	MG COMPARATOR	IC327	MP7670AS-TE2	ZONE 24, 25 ADJ
IC7	HD14538BFP-TL	VD GENERATOR	IC328	MP7670AS-TE2	MG ALL, ZONE 1 ADJ
IC8	uPC814G2-T1	V AFC-1	IC329	MP7670AS-TE2	MG ZONE 2, 3 ADJ
IC9	uPC393G2-T2	V AFC-2	IC330	MP7670AS-TE2	MG ZONE 4/AQP, DQP ADJ
IC10	MC-8639A	H SHIFT	IC331	MP7670AS-TE2	AQP & DQP ZONE 1, 2 ADJ
IC11	uPC1377C	AFC	IC332	MP7670AS-TE2	AQP & DQP ZONE 2, 3 ADJ
IC12	HD14538BFP-TL	PULSE GENERATOR	IC333	MP7670AS-TE2	AQP & DQP ZONE 3, 4 ADJ
IC13	uPC814G2-T1	F-V BUFFER	IC334	MP7670AS-TE2	AQP & DQP ZONE 5, 6 ADJ
IC14	uPC814G2-T1	HF AFC AMP	IC335	MP7670AS-TE2	AQP & DQP ZONE 6, 7 ADJ
IC15	uPC814G2-T1	VIDEO AFC BUFFER	IC336	MP7670AS-TE2	AQP & DQP ZONE 7, 8 ADJ
IC16	TC7S04F-TE85R	INVERTER-1	IC337	uPC814G2-T1	AQP & DQP BUFFER
IC17	CXA1470AS	WAVE FORM GENERATOR	IC338	RH5VL43AA-T1	P-ON RESET-1

D BOARD

Function of Semiconductor (2/3)

IC339	RH5VL43AA-T1	P-ON RESET-2	Q10	2SA1162-YG	V-I CONVERTER-3
IC340	TL431CLP-Z20	VOLTAGE REF-1	Q11	2SK523TP-M1	V SYNC INVERTER
IC341	uPC814G2-T1	MG HP, VP BUFFER	Q12	2SC2712-YG	V SYNC BUFFER
IC342	CXA1726AM-T6	AQP & DQP WAVE FORM GEN-1	Q13	2SC2712-YG	H SYNC BUFFER
IC343	CXA1726AM-T6	AQP & DQP WAVE FORM GEN-2	Q14	2SC2712-YG	H OSC BUFFER-1
IC344	SN74HC125ANS-E05	DATA, ACK BUFFER	Q15	2SA1162-YG	H OSC BUFFER-2
IC345	uPC814G2-T1	AQP BUFFER AMP	Q16	2SC2712-YG	V AFC SW
IC346	uPC814G2-T1	AQP, DQP BUFFER AMP	Q17	2SC2712-YG	V AFC AMP
IC347	uPC814G2-T1	DQP BUFFER AMP	Q18	2SC2712-YG	V AMP-1
IC348	uPC814G2-T1	MG BUFFER AMP-1	Q19	2SC2712-YG	V AMP-2
IC349	uPC814G2-T1	MG BUFFER AMP-2	Q20	DTC144EKA	SW-2
IC350	uPC814G2-T1	MG BUFFER AMP-3	Q21	DTC144EKA	SW-1
IC351	uPC814G2-T1	SUB BUFFER AMP-1	Q22	2SC2712-YG	V-I CONVERTER-3
IC352	uPC814G2-T1	SUB BUFFER AMP-2	Q23	FMS2	CURRENT MIRROR
IC353	uPC814G2-T1	SUB BUFFER AMP-3	Q24	FMW5	V-I CONVERTER-4
IC354	MP7670AS-TE2	MG CO ADJ-1	Q25	2SA1162-YG	VIDEO AFC
IC355	MP7670AS-TE2	MG CO ADJ-2	Q26	DTC144EKA	SW-3
IC801	LM2940CT-5.0	+5V REG-2	Q27	DTC144EKA	INVERTER
IC802	LM2990CT-5.0	–5V REG-2	Q28	2SC2712-YG	1/2H BUFFER
IC803	CXA1470AS	V WAVE FORM	Q29	2SC2712-YG	VD BUFFER
IC804	uPC4558G2-T2	V SAW AMP	Q30	2SC2712-YG	1/2V BUFFER
IC805	uPC4558G2-T2	V SIN BUFFER	Q31	2SC2712-YG	HD BUFFER-3
IC806	TL431CLP-Z20	VOLTAGE REF-2	Q32	2SA1162-YG	HD BUFFER-4
IC807	RH5VL43AA-T1	P-ON RESET-3	Q33	2SK523TP-M1	BIAS
IC808	MP7670AS-TE2	R V ADJ	Q34	FMW5	V SIN 1 SW
IC809	MP7670AS-TE2	G V ADJ	Q35	2SA1162-YG	V SIN 1 BUFFER
IC810	MP7670AS-TE2	B V ADJ	Q36	FMS1A	V SIN 2 SW
IC811	uPC4558G2-T2	R V AMP	Q37	2SC2712-YG	V SIN 2 BUFFER
IC812	uPC1498H	R V OUT	Q38	FMW5	H SIN 1 SW
IC813	uPC4558G2-T2	G V AMP	Q39	2SA1162-YG	H SIN 1 BUFFER
IC814	uPC1498H	G V OUT	Q40	FMS1A	H SIN 2 SW
IC815	uPC4558G2-T2	B V AMP	Q41	2SC2712-YG	H SIN 2 BUFFER
IC816	uPC1498H	B V OUT	Q42	FMS1A	TILT 1 SW
IC817	NJM7812FA	+12V REG-2	Q43	2SC2712-YG	TILT 1 BUFFER
IC818	NJM7912FA	–12V REG-2	Q44	FMS1A	TILT 4 SW
IC819	uPC4558G2-T2	V PULSE GENERATOR	Q45	2SC2712-YG	TILT 4 BUFFER
IC820	uPC393G2-T2	V STOP CONT SW	Q46	FMW5	TILT 3 SW
IC821	MP7670AS-TE2	2 POLE ADJ	Q47	2SA1162-YG	TILT 3 BUFFER
IC822	uPC4558G2-T2	2 POLE AMP-1	Q48	FMW5	TILT 2 SW
IC823	uPC4558G2-T2	2 POLE AMP-2	Q49	2SA1162-YG	TILT 2 BUFFER
IC824	uPC4558G2-T2	2 POLE AMP-3	Q50	FMW5	ZONE 24 SW
IC1100	MP7670AS-TE2	MOD ADJ-1	Q51	2SA1162-YG	ZONE 24 BUFFER
IC1101	uPC814G2-T1	MOD BUFFER AMP-1	Q52	FMS1A	ZONE 25 SW
IC1102	uPC4558G2-T2	V SAW, PARA BUFFER	Q53	2SC2712-YG	ZONE 25 BUFFER
IC1103	MP7670AS-TE2	V SUB BOW, KEY ADJ	Q54	FMW5	ZONE 22 SW
IC1104	uPC814G2-T1	H SAW, PARA BUFFER	Q55	2SA1162-YG	ZONE 22 BUFFER
IC1105	MP7670AS-TE2	MOD ADJ-2	Q56	FMS1A	ZONE 23 SW
IC1107	uPC814G2-T1	MOD BUFFER AMP-2	Q57	2SC2712-YG	ZONE 23 BUFFER
IC1108	MP7670AS-TE2	H SUB BOW, KEY ADJ	Q58	2SC2712-YG	VD BUFFER
			Q59	2SC2712-YG	V SAW BUFFER
Q1	2SC2712-YG	HD BUFFER-1	Q60	2SC2712-YG	V SIZE LIMITER
Q2	2SA1162-YG	HD BUFFER-2	Q201	2SC2712-YG	MG 1/2H BUFFER
Q3	2SC2712-YG	AD HD BUFFER	Q801	2SA1162-YG	V SIN 2 BUFFER
Q4	2SA1162-YG	V-I CONVERTER-1	Q802	FMS1A	V SIN 1 SW
Q5	2SC2712-YG	HD AMP-1	Q804	2SC2712-YG	V SIN 1 BUFFER
Q6	2SC2712-YG	HD AMP-2	Q805	2SC2712-YG	V SAW BUFFER
Q7	FMS2	V-I CONVERTER-2	Q806	2SK2251-01	R-VRP
Q8	2SC2712-YG	MG H.SHIFT BUFFER	Q807	2SC2712-YG	V PULSE DETECTOR-1
Q9	2SC2712-YG	MG HD BUFFER	Q808	2SC2712-YG	V PULSE BUFFFER

D BOARD

Function of Semic

Q809	2SK2
Q810	2SC2
Q811	2SK2
Q812	2SC27
Q813	2SC27
Q814	2SC27
Q815	2SC34
Q816	2SA13
Q817	2SC34
Q818	2SA13
Q819	2SC34
Q820	2SA135
Q821	2SC342
Q822	2SA135
Q823	2SC342
Q824	2SA135
Q825	2SC342
Q826	2SA135
Q827	FMW5

D BOARD

Function of Semiconductor (2/3)

IC339	RH5VL43AA-T1	P-ON RESET-2	Q10	2SA1162-YG	V-I CONVERTER-3
IC340	TL431CLP-Z20	VOLTAGE REF-1	Q11	2SK523TP-M1	V SYNC INVERTER
IC341	uPC814G2-T1	MG HP, VP BUFFER	Q12	2SC2712-YG	V SYNC BUFFER
IC342	CXA1726AM-T6	AQP & DQP WAVE FORM GEN-1	Q13	2SC2712-YG	H SYNC BUFFER
IC343	CXA1726AM-T6	AQP & DQP WAVE FORM GEN-2	Q14	2SC2712-YG	H OSC BUFFER-1
IC344	SN74HC125ANS-E05	DATA, ACK BUFFER	Q15	2SA1162-YG	H OSC BUFFER-2
IC345	uPC814G2-T1	AQP BUFFER AMP	Q16	2SC2712-YG	V AFC SW
IC346	uPC814G2-T1	AQP, DQP BUFFER AMP	Q17	2SC2712-YG	V AFC AMP
IC347	uPC814G2-T1	DQP BUFFER AMP	Q18	2SC2712-YG	V AMP-1
IC348	uPC814G2-T1	MG BUFFER AMP-1	Q19	2SC2712-YG	V AMP-2
IC349	uPC814G2-T1	MG BUFFER AMP-2	Q20	DTC144EKA	SW-2
IC350	uPC814G2-T1	MG BUFFER AMP-3	Q21	DTC144EKA	SW-1
IC351	uPC814G2-T1	SUB BUFFER AMP-1	Q22	2SC2712-YG	V-I CONVERTER-3
IC352	uPC814G2-T1	SUB BUFFER AMP-2	Q23	FMS2	CURRENT MIRROR
IC353	uPC814G2-T1	SUB BUFFER AMP-3	Q24	FMW5	V-I CONVERTER-4
IC354	MP7670AS-TE2	MG CO ADJ-1	Q25	2SA1162-YG	VIDEO AFC
IC355	MP7670AS-TE2	MG CO ADJ-2	Q26	DTC144EKA	SW-3
IC801	LM2940CT-5.0	+5V REG-2	Q27	DTC144EKA	INVERTER
IC802	LM2990CT-5.0	–5V REG-2	Q28	2SC2712-YG	1/2H BUFFER
IC803	CXA1470AS	V WAVE FORM	Q29	2SC2712-YG	VD BUFFER
IC804	uPC4558G2-T2	V SAW AMP	Q30	2SC2712-YG	1/2V BUFFER
IC805	uPC4558G2-T2	V SIN BUFFER	Q31	2SC2712-YG	HD BUFFER-3
IC806	TL431CLP-Z20	VOLTAGE REF-2	Q32	2SA1162-YG	HD BUFFER-4
IC807	RH5VL43AA-T1	P-ON RESET-3	Q33	2SK523TP-M1	BIAS
IC808	MP7670AS-TE2	R V ADJ	Q34	FMW5	V SIN 1 SW
IC809	MP7670AS-TE2	G V ADJ	Q35	2SA1162-YG	V SIN 1 BUFFER
IC810	MP7670AS-TE2	B V ADJ	Q36	FMS1A	V SIN 2 SW
IC811	uPC4558G2-T2	R V AMP	Q37	2SC2712-YG	V SIN 2 BUFFER
IC812	uPC1498H	R V OUT	Q38	FMW5	H SIN 1 SW
IC813	uPC4558G2-T2	G V AMP	Q39	2SA1162-YG	H SIN 1 BUFFER
IC814	uPC1498H	G V OUT	Q40	FMS1A	H SIN 2 SW
IC815	uPC4558G2-T2	B V AMP	Q41	2SC2712-YG	H SIN 2 BUFFER
IC816	uPC1498H	B V OUT	Q42	FMS1A	TILT 1 SW
IC817	NJM7812FA	+12V REG-2	Q43	2SC2712-YG	TILT 1 BUFFER
IC818	NJM7912FA	–12V REG-2	Q44	FMS1A	TILT 4 SW
IC819	uPC4558G2-T2	V PULSE GENERATOR	Q45	2SC2712-YG	TILT 4 BUFFER
IC820	uPC393G2-T2	V STOP CONT SW	Q46	FMW5	TILT 3 SW
IC821	MP7670AS-TE2	2 POLE ADJ	Q47	2SA1162-YG	TILT 3 BUFFER
IC822	uPC4558G2-T2	2 POLE AMP-1	Q48	FMW5	TILT 2 SW
IC823	uPC4558G2-T2	2 POLE AMP-2	Q49	2SA1162-YG	TILT 2 BUFFER
IC824	uPC4558G2-T2	2 POLE AMP-3	Q50	FMW5	ZONE 24 SW
IC1100	MP7670AS-TE2	MOD ADJ-1	Q51	2SA1162-YG	ZONE 24 BUFFER
IC1101	uPC814G2-T1	MOD BUFFER AMP-1	Q52	FMS1A	ZONE 25 SW
IC1102	uPC4558G2-T2	V SAW, PARA BUFFER	Q53	2SC2712-YG	ZONE 25 BUFFER
IC1103	MP7670AS-TE2	V SUB BOW, KEY ADJ	Q54	FMW5	ZONE 22 SW
IC1104	uPC814G2-T1	H SAW, PARA BUFFER	Q55	2SA1162-YG	ZONE 22 BUFFER
IC1105	MP7670AS-TE2	MOD ADJ-2	Q56	FMS1A	ZONE 23 SW
IC1107	uPC814G2-T1	MOD BUFFER AMP-2	Q57	2SC2712-YG	ZONE 23 BUFFER
IC1108	MP7670AS-TE2	H SUB BOW, KEY ADJ	Q58	2SC2712-YG	VD BUFFER
			Q59	2SC2712-YG	V SAW BUFFER
Q1	2SC2712-YG	HD BUFFER-1	Q60	2SC2712-YG	V SIZE LIMITER
Q2	2SA1162-YG	HD BUFFER-2	Q201	2SC2712-YG	MG 1/2H BUFFER
Q3	2SC2712-YG	AD HD BUFFER	Q801	2SA1162-YG	V SIN 2 BUFFER
Q4	2SA1162-YG	V-I CONVERTER-1	Q802	FMS1A	V SIN 1 SW
Q5	2SC2712-YG	HD AMP-1	Q804	2SC2712-YG	V SIN 1 BUFFER
Q6	2SC2712-YG	HD AMP-2	Q805	2SC2712-YG	V SAW BUFFER
Q7	FMS2	V-I CONVERTER-2	Q806	2SK2251-01	R-VRP
Q8	2SC2712-YG	MG H.SHIFT BUFFER	Q807	2SC2712-YG	V PULSE DETECTOR-1
Q9	2SC2712-YG	MG HD BUFFER	Q808	2SC2712-YG	V PULSE BUFFFER

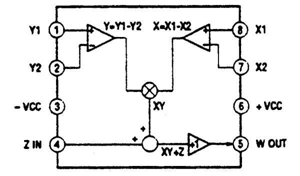
D BOARD

Function of Semiconductor (3/3)

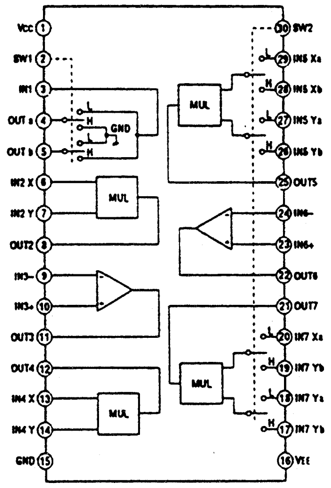
Q809	2SK2251-01	G-VRP
Q810	2SC2712-YG	V PULSE DETECTOR-2
Q811	2SK2251-01	B-VRP
Q812	2SC2712-YG	V PULSE DETECTOR-3
Q813	2SC2712-YG	V PUR SW-1
Q814	2SC2712-YG	V PUR SW-2
Q815	2SC3421-Y	VB 2 POLE BUFFER-1
Q816	2SA1358-Y	VB 2 POLE BUFFER-2
Q817	2SC3421-Y	VG 2 POLE BUFFER-1
Q818	2SA1358-Y	VG 2 POLE BUFFER-2
Q819	2SC3421-Y	VR 2 POLE BUFFER-1
Q820	2SA1358-Y	VR 2 POLE BUFFER-2
Q821	2SC3421-Y	HB 2 POLE BUFFER-1
Q822	2SA1358-Y	HB 2 POLE BUFFER-2
Q823	2SC3421-Y	HG 2 POLE BUFFER-1
Q824	2SA1358-Y	HG 2 POLE BUFFER-2
Q825	2SC3421-Y	HR 2 POLE BUFFER-1
Q826	2SA1358-Y	HR 2 POLE BUFFER-2
Q827	FMW5	V SIN SW

D BOARD IC Block Diagrams

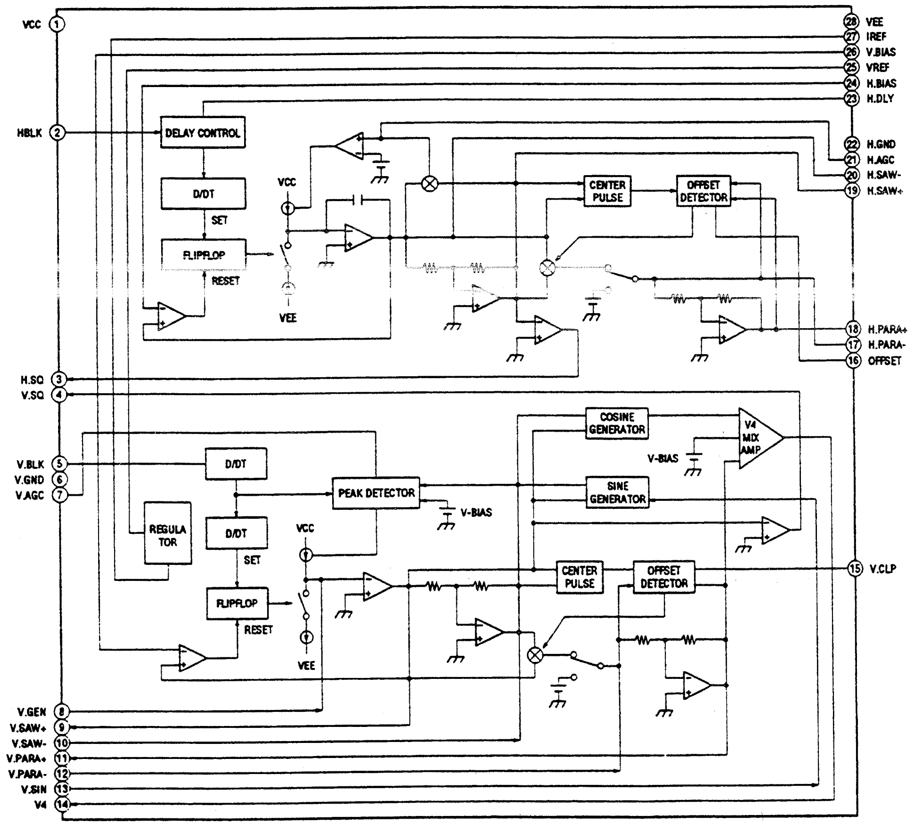
AD835AF (IC31, 37)


Y1 1
Y2 2
-VCC 3
Z IN 4
8 X1
7 X2
6 +VCC
5 W OUT
Y=Y1-Y2
X=X1-X2
XY
XY+Z
+1

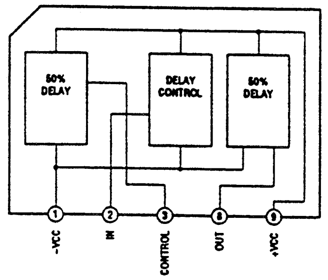
CXA1726AM
(IC24, 25, 26, 22, 28, 342, 343)


Vcc 1
SW1 2
IN1 3
OUT a 4
OUT b 5
IN2 X 6
IN2 Y 7
OUT2 8
IN3- 9
IN3+ 10
OUT3 11
OUT4 12
IN4 X 13
IN4 Y 14
GND 15
30 SW2
29 IN5 Xa
28 IN5 Xb
27 IN5 Ya
26 IN5 Yb
25 OUT5
24 IN6-
23 IN6+
22 OUT6
21 OUT7
20 IN7 Xa
19 IN7 Yb
18 IN7 Ya
17 IN7 Yb
16 VEE
MUL
MUL
MUL
MUL
GND
L
H

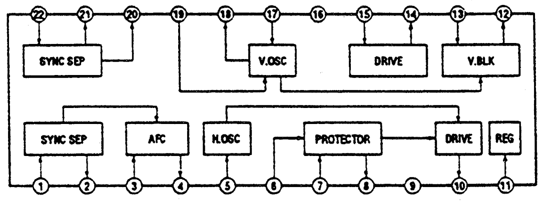
CXA1470AS (IC30, 17, 803)


VCC 1
HBLK 2
H.SQ 3
V.SQ 4
V.BLK 5
V.GND 6
V.AGC 7
V.GEN 8
V.SAW+ 9
V.SAW- 10
V.PARA+ 11
V.PARA- 12
V.SIN 13
V4 14
28 VEE
27 IREF
26 V.BIAS
25 VREF
24 H.BIAS
23 H.DLY
22 H.GND
21 H.AGC
20 H.SAW-
19 H.SAW+
18 H.PARA+
17 H.PARA-
16 OFFSET
15 V.CLP
DELAY CONTROL
D/DT
SET
FLIPFLOP
RESET
VCC
VEE
CENTER PULSE
OFFSET DETECTOR
D/DT
REGULA TOR
D/DT
SET
FLIPFLOP
RESET
VCC
VEE
PEAK DETECTOR
V-BIAS
COSINE GENERATOR
SINE GENERATOR
V4 MIX AMP
V-BIAS
CENTER PULSE
OFFSET DETECTOR

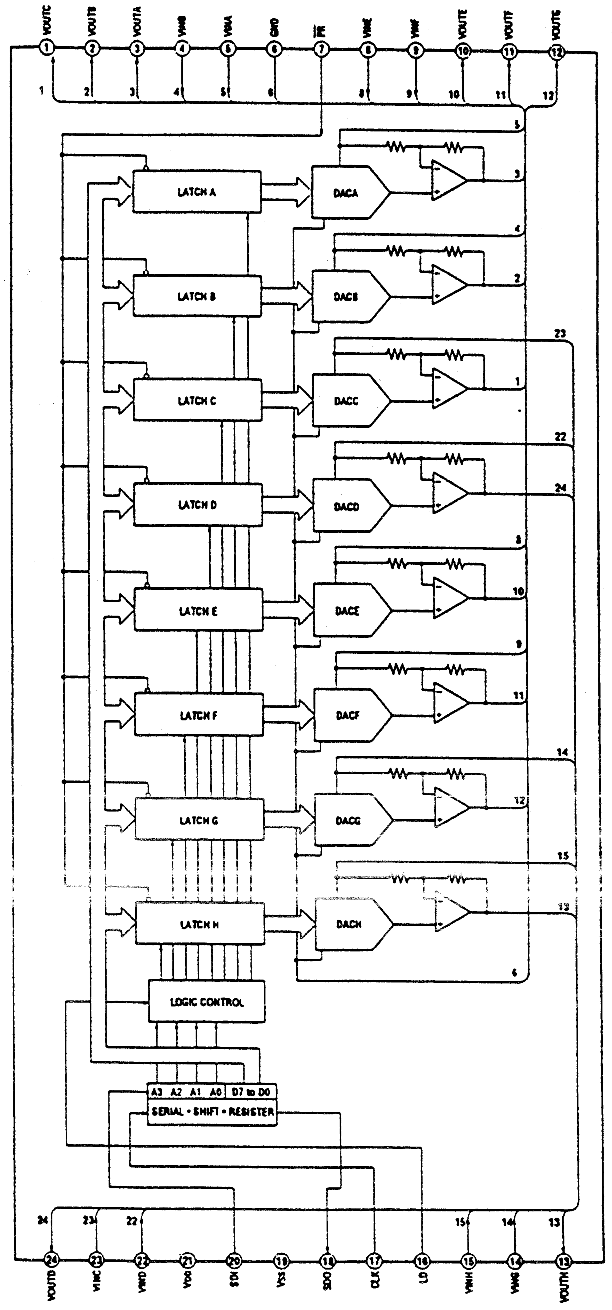
MC-8369A (IC10)


50% DELAY
DELAY CONTROL
50% DELAY
1
2
3
8
9
-VCC
IN
CONTROL
OUT
+VCC

uPC1377 (IC11)

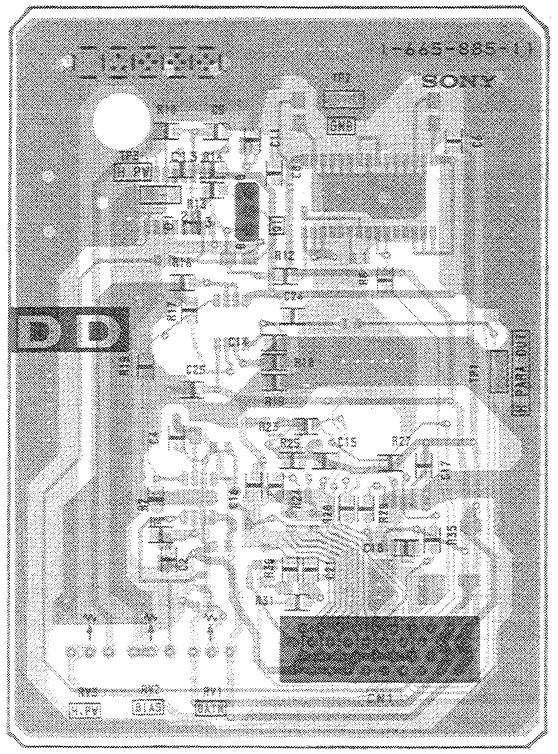

22
21
20
19
18
17
16
15
14
13
12
SYNC SEP
V.OSC
DRIVE
V.BLK
SYNC SEP
AFC
H.OSC
PROTECTOR
DRIVE
REG
1
2
3
4
5
6
7
8
9
10
11

MP7670AS
(IC301—336, 354, 355, 808—810, 821, 1100, 1103, 1105, 1108)

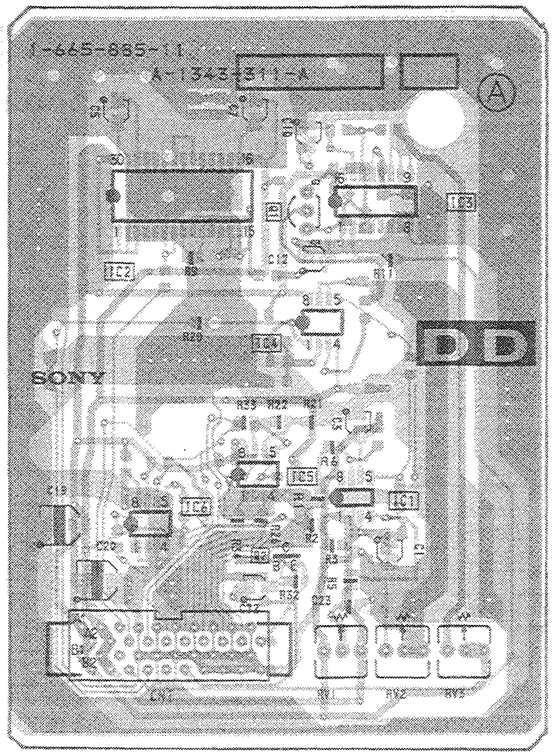

VOUTC 1
VOUTB 2
VOUTA 3
VINB 4
VINA 5
GND 6
WR 7
VINE 8
VINF 9
VOUTE 10
VOUTF 11
VOUTG 12
LATCH A
LATCH B
LATCH C
LATCH D
LATCH E
LATCH F
LATCH G
LATCH H
DACA
DACB
DACC
DACD
DACE
DACF
DACG
DACH
LOGIC CONTROL
A3 A2 A1 A0
D7 to D0
SERIAL • SHIFT • REGISTER
24 VOUTD
23 VINC
22 VIND
21 VDD
20 SDI
19 VSS
18 SDO
17 CLK
16 LD
15 VINH
14 VING
13 VOUTH

DD (WAVEFORM GENERATOR) BOARD

— DD BOARD — <Conductor side>

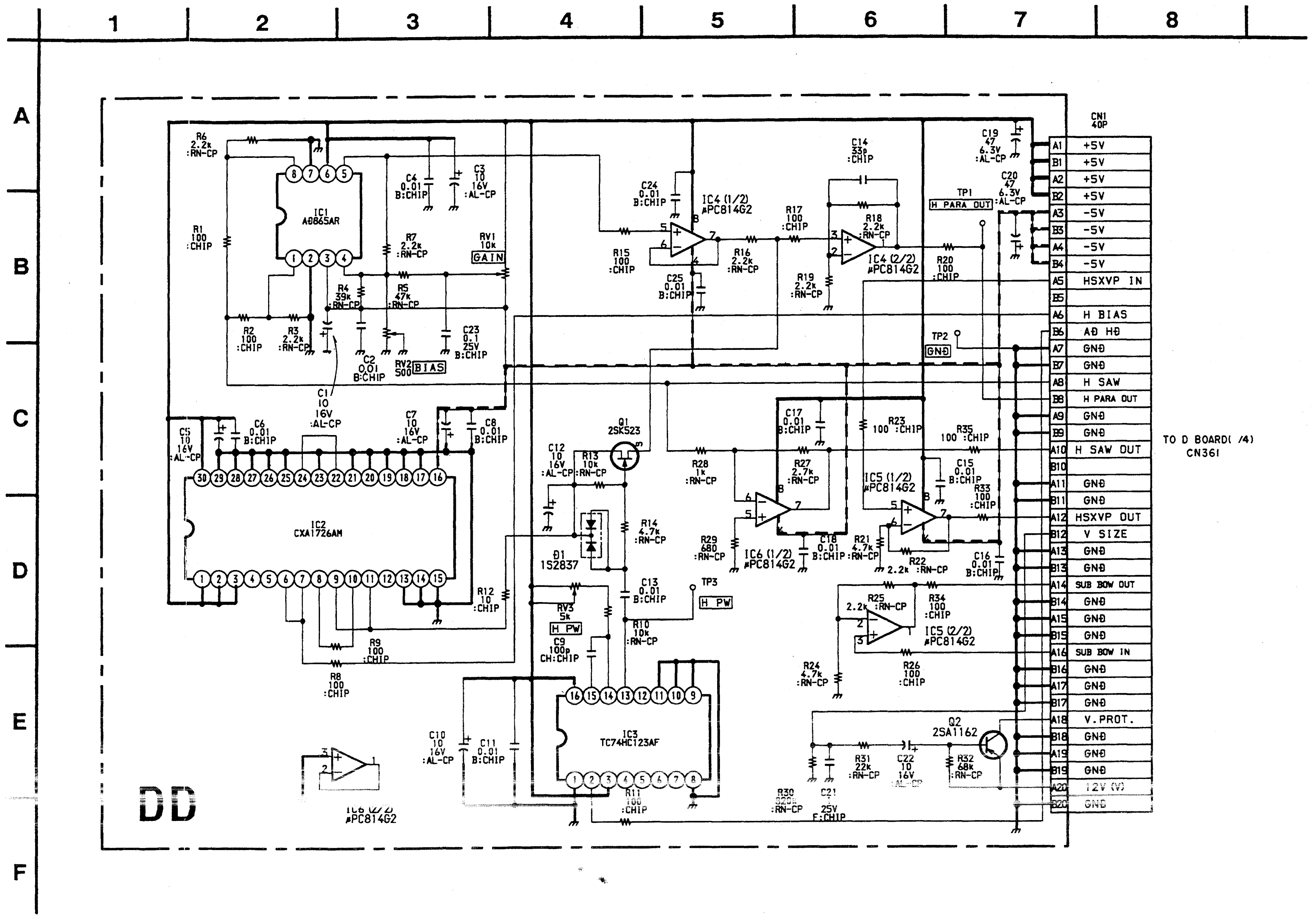

1-665-885-11
SONY
TP2
GND
H PW
DD
H PARA OUT
RV3
BIAS
RV2
GAIN
RV1
CN1

— DD BOARD — <Component side>


1-665-885-11
A-1343-311-A
Ⓐ
SONY
DD
IC1
IC2
IC3
IC4
IC5
IC6
CN1
RV1
RV2
RV3

- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

• DD (WAVEFORM GENERATOR) DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
F
IC1 AD835AR
IC2 CXA1726AM
IC3 TC74HC123AF
IC4 (1/2) μPC814G2
IC4 (2/2) μPC814G2
IC5 (1/2) μPC814G2
IC5 (2/2) μPC814G2
IC6 (1/2) μPC814G2
IC6 (2/2) μPC814G2
Q1 2SK523
Q2 2SA1162
D1 1S2837
RV1 10k GAIN
RV2 500 BIAS
RV3 5k H PW
TP1 H PARA OUT
TP2 GND
TP3 H PW
CN1 40P
A1 +5V
B1 +5V
A2 +5V
B2 +5V
A3 -5V
B3 -5V
A4 -5V
B4 -5V
A5 HSXVP IN
B5
A6 H BIAS
B6 AD HD
A7 GND
B7 GND
A8 H SAW
B8 H PARA OUT
A9 GND
B9 GND
A10 H SAW OUT
B10
A11 GND
B11 GND
A12 HSXVP OUT
B12 V SIZE
A13 GND
B13 GND
A14 SUB BOW OUT
B14 GND
A15 GND
B15 GND
A16 SUB BOW IN
B16 GND
A17 GND
B17 GND
A18 V.PROT.
B18 GND
A19 GND
B19 GND
A20 12V (V)
B20 GND
TO D BOARD(/4) CN361
DD

DD BOARD

Function of Semiconductor

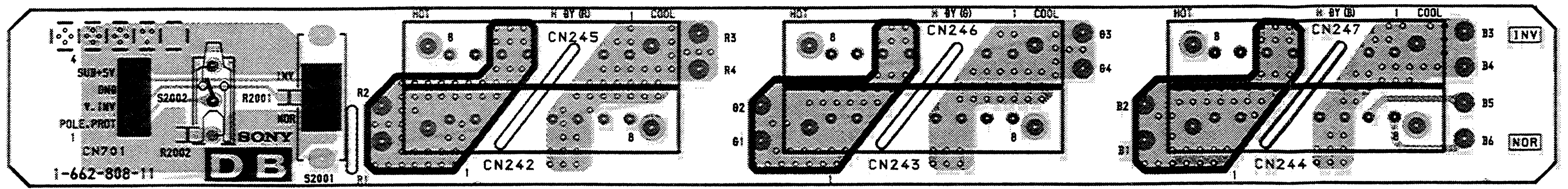
D1	1S2837	BIAS
IC1	AD835AR	WAVE FORM SHAPER
IC2	CXA1726AM	WAVE FORM GENERATOR
IC3	TC74HC123AF	PULSE GEN
IC4	uPC814G2	H PARA AMP
IC5	uPC814G2	H SXVP AMP
IC6	uPC814G2	SUB BOW AMP
Q1	2SK523TP	SWITCH
Q2	2SA1162-YG	V SIZE PROTECT

Schematic Diagram

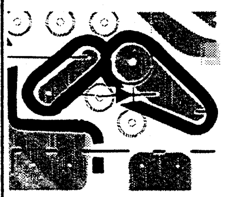
DD board ➡

DB (H POLARITY CHANGE) BOARD

— DB BOARD — <Conductor side>

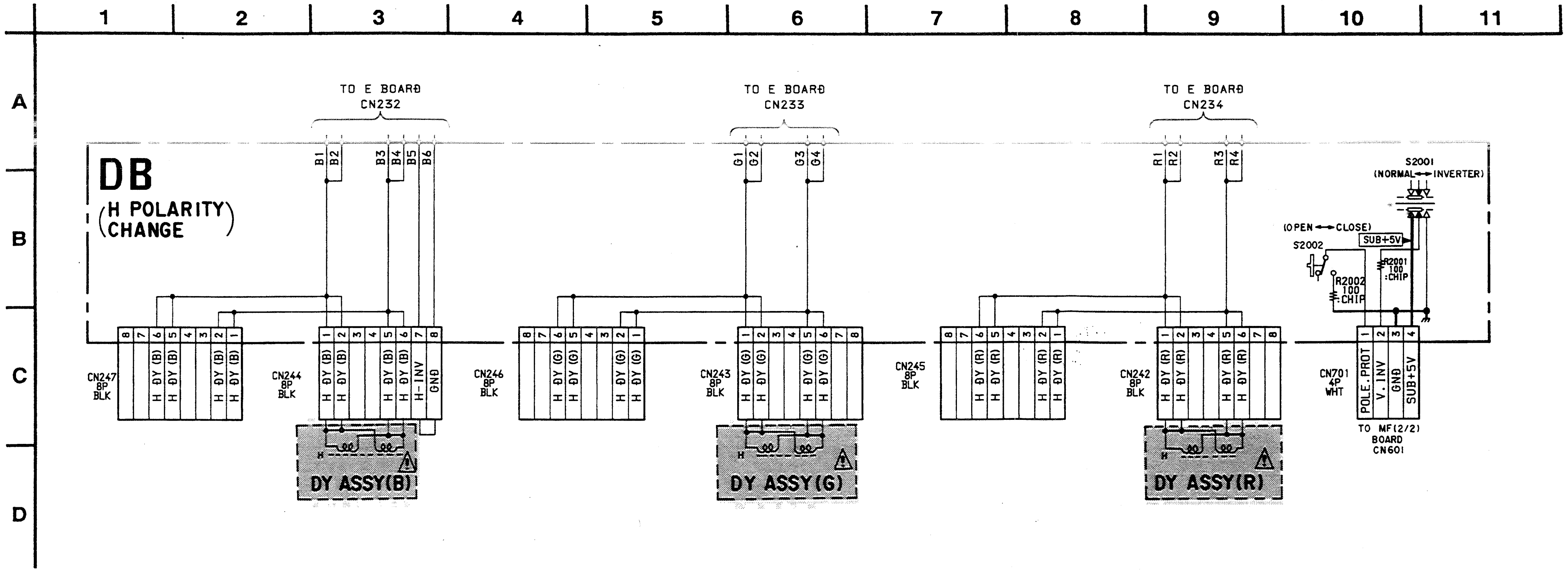

SUB+5V
GND
V.INV
POLE.PROT
CN701
R2002
R2001
S2002
S2001
INV
NOR
1-662-808-11
SONY
DB
R1
R2
R3
R4
B1
B2
B3
B4
B5
B6
G1
G2
G3
G4
HOT
H DY
COOL
CN242
CN243
CN244
CN245
CN246
CN247

- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

• DB (H POLARITY CHANGE) DIAGRAM

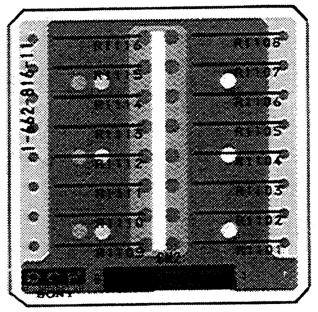

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
TO E BOARD CN232
TO E BOARD CN233
TO E BOARD CN234
DB
(H POLARITY CHANGE)
B1 B2 B3 B4 B5 B6
G1 G2 G3 G4
R1 R2 R3 R4
S2001 (NORMAL↔INVERTER)
(OPEN↔CLOSE) S2002
SUB+5V
R2001 100 :CHIP
R2002 100 :CHIP
CN247 8P BLK
CN244 8P BLK
CN246 8P BLK
CN243 8P BLK
CN245 8P BLK
CN242 8P BLK
CN701 4P WHT
H DY (B)
H DY (G)
H DY (R)
H-INV
GND
POLE.PROT
V.INV
SUB+5V
TO MF(2/2) BOARD CN601
DY ASSY(B)
DY ASSY(G)
DY ASSY(R)
H

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

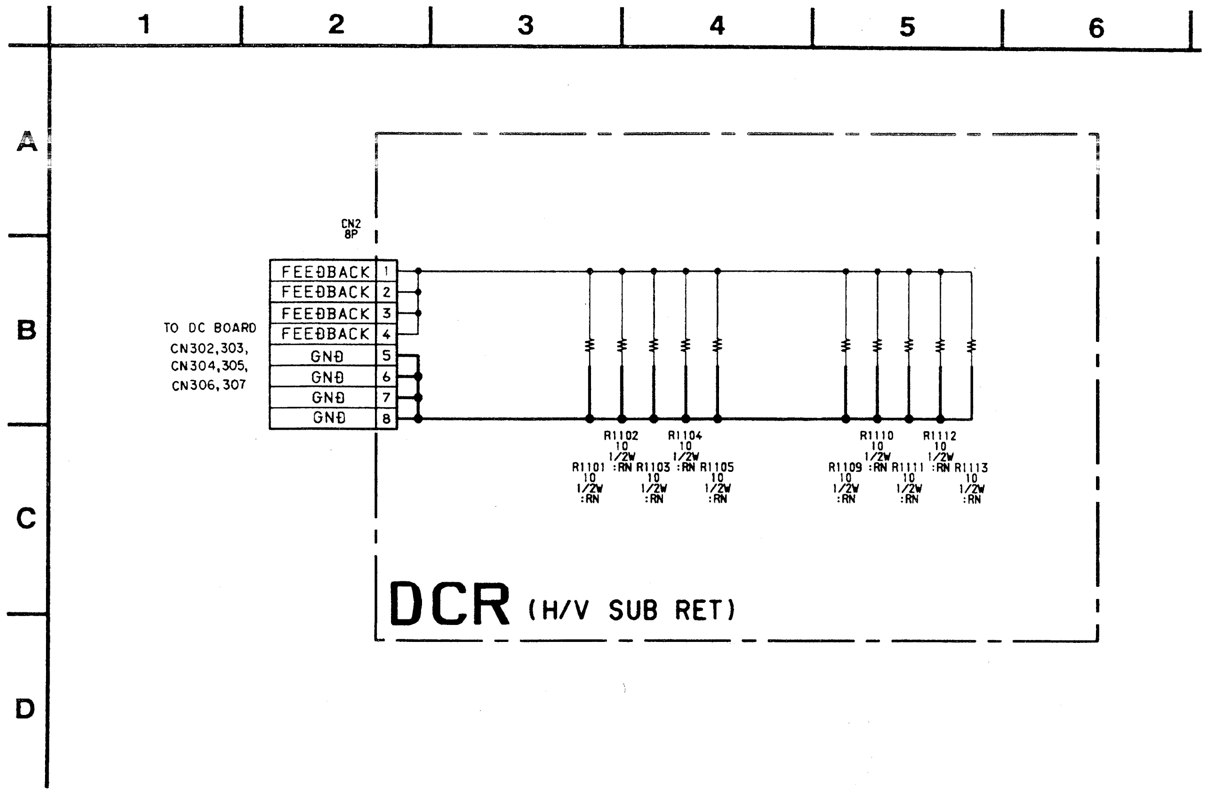
DCR (H/V SUB RET) BOARD

— DCR BOARD — <Conductor side>


1-642-816-11
DCR

- ░: Pattern from the side which enables seeing.
- ▒: Pattern of the rear side.

• DCR (H/V SUB RET) DIAGRAM

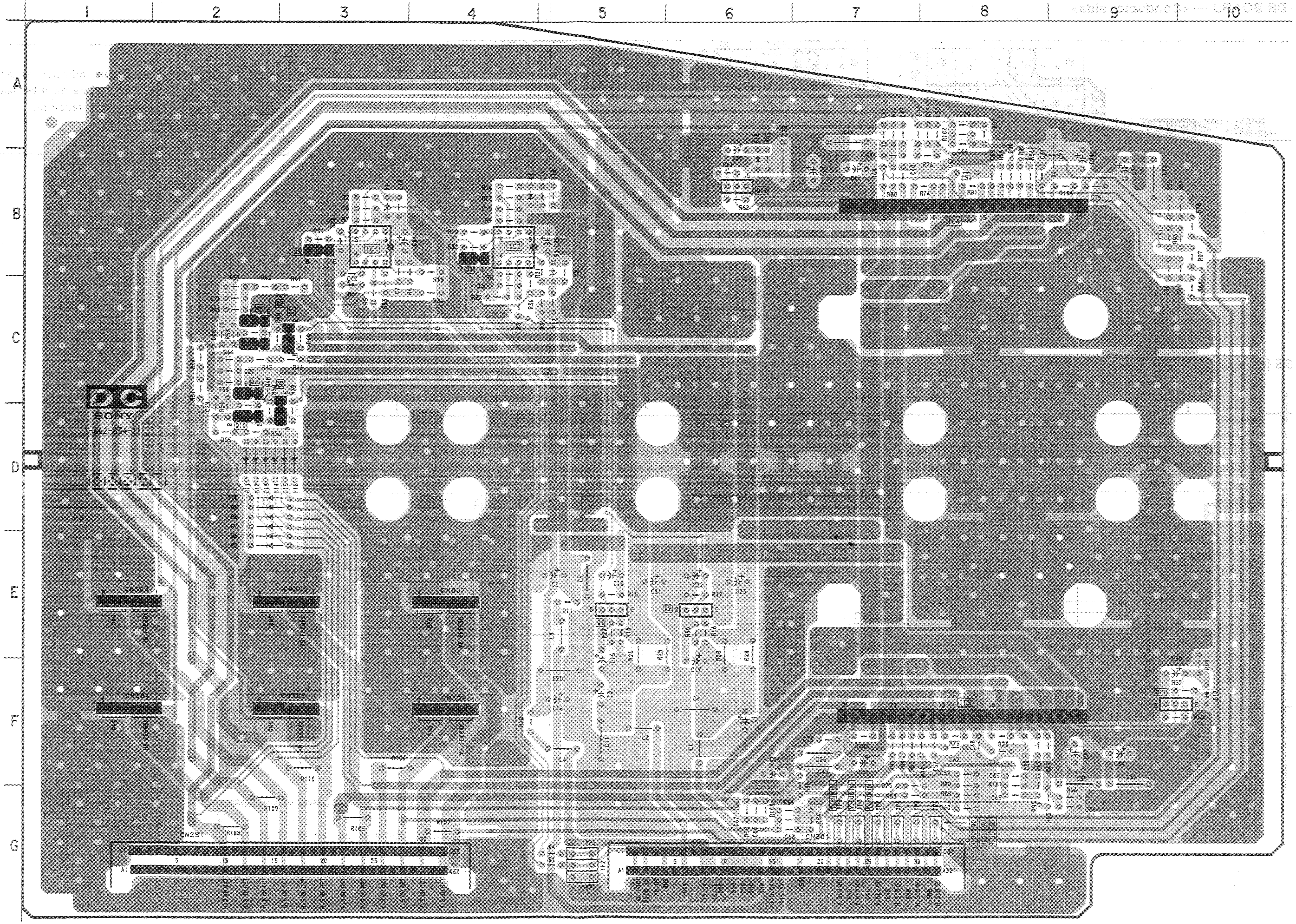

1
2
3
4
5
6
A
B
C
D
CN2
8P
FEEDBACK 1
FEEDBACK 2
FEEDBACK 3
FEEDBACK 4
GND 5
GND 6
GND 7
GND 8
TO DC BOARD
CN302,303,
CN304,305,
CN306,307
R1101 10 1/2W :RN
R1102 10 1/2W :RN
R1103 10 1/2W :RN
R1104 10 1/2W :RN
R1105 10 1/2W :RN
R1109 10 1/2W :RN
R1110 10 1/2W :RN
R1111 10 1/2W :RN
R1112 10 1/2W :RN
R1113 10 1/2W :RN
DCR (H/V SUB RET)

DC (H/V SUB OUT) BOARD

— DC BOARD — <Conductor side>

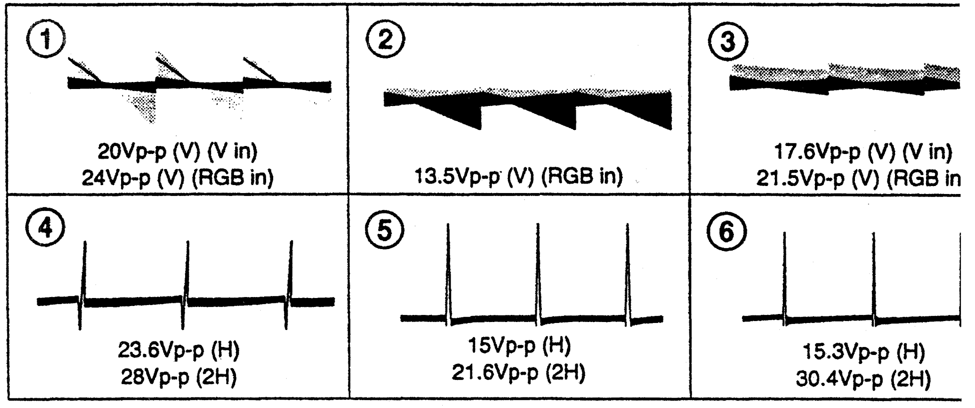
DC BOARD
Semiconductors Location

DIODE	
D1	B-5
D2	B-4
D3	C-3
D4	B-3
D17	F-10
D18	B-6
IC	
IC1	B-3
IC2	B-4
IC3	F-8
IC4	B-8
TRANSISTOR	
Q1	E-5
Q2	E-6
Q3	B-3
Q4	B-4
Q5	C-2
Q6	C-2
Q7	C-3
Q8	D-3
Q9	C-2
Q10	D-2
Q11	F-9
Q12	B-6
TEST POINT	
TP1	G-5
TP2	G-5
TP3	G-5
TP4	G-8
TP5	G-7
TP6	G-7
TP7	G-7
TP8	G-7
TP9	G-7

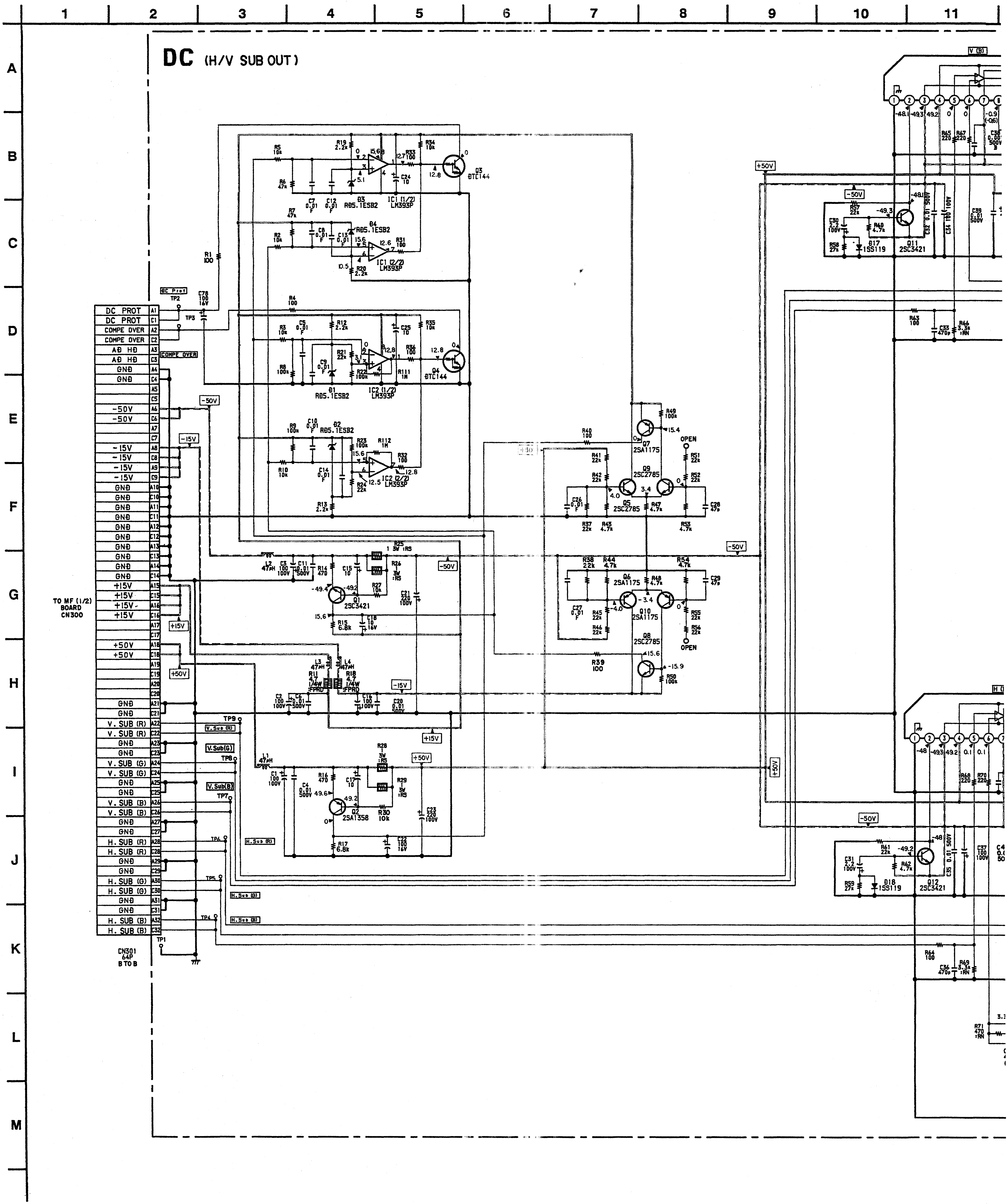

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
DC
SONY
1-662-834-11
IC1
IC2
IC3
IC4
CN303
CN305
CN307
CN304
CN302
CN306
CN291
CN301
TP1
TP2

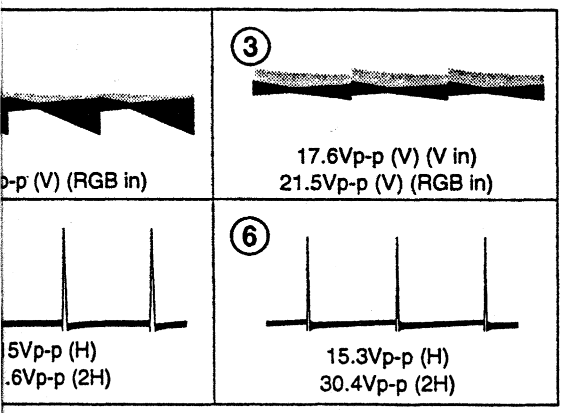
- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

DC Board Waveforms



• DC (H/V SUB OUT) DIAGRAM

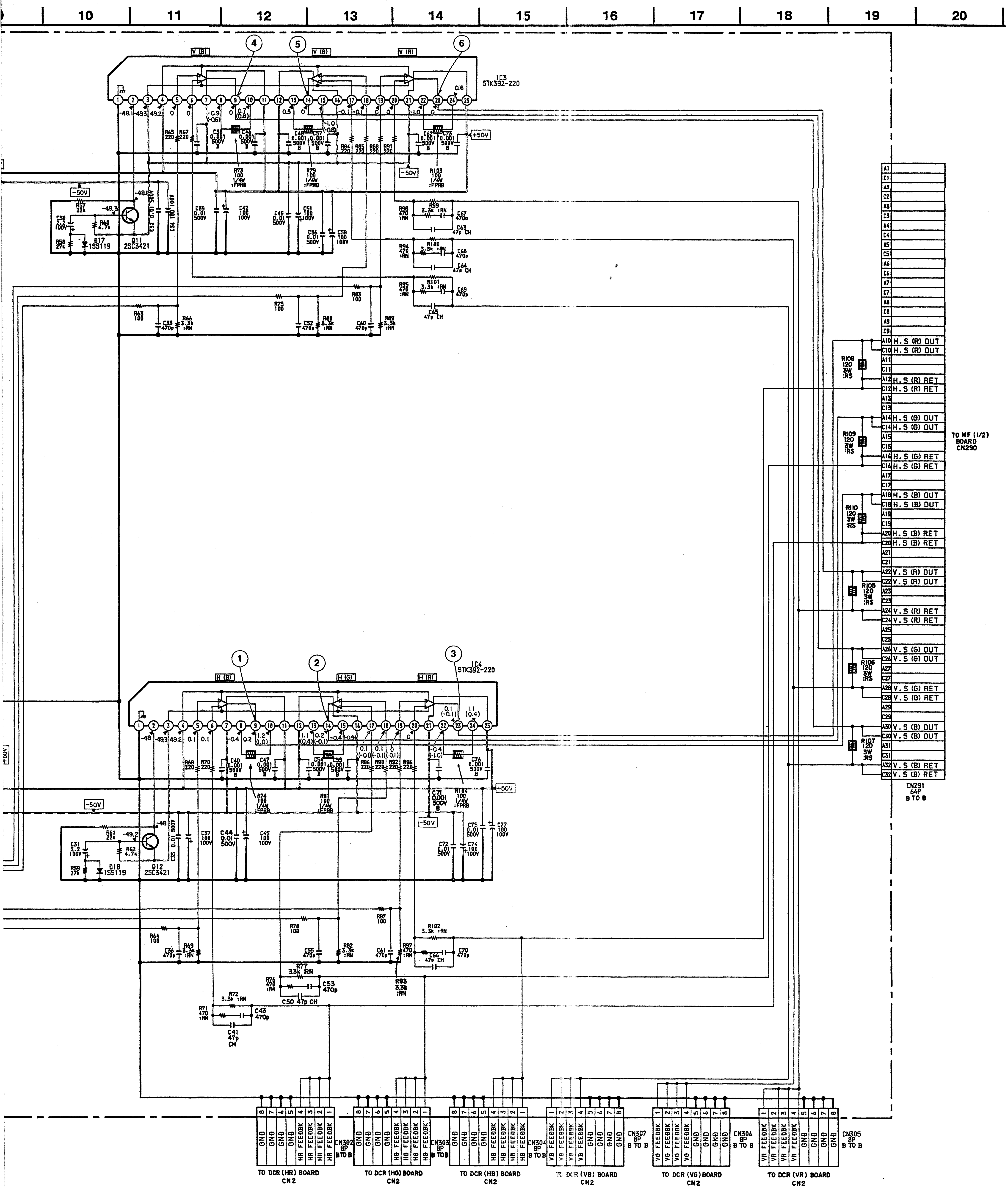

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
DC (H/V SUB OUT)
DC PROT
DC PROT
COMPE OVER
COMPE OVER
AD HD
AD HD
GND
-50V
-15V
+15V
+50V
V. SUB (R)
V. SUB (G)
V. SUB (B)
H. SUB (R)
H. SUB (G)
H. SUB (B)
TO MF (1/2) BOARD CN300
CN301 64P B TO B
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
IC1 (1/2) LM393P
IC1 (2/2) LM393P
IC2 (1/2) LM393P
IC2 (2/2) LM393P
Q1 2SC3421
Q2 2SA1358
Q3 DTC144
Q4 DTC144
Q5 2SC2785
Q6 2SA1175
Q7 2SA1175
Q8 2SC2785
Q9 2SC2785
Q10 2SA1175
Q11 2SC3421
Q12 2SC3421
D17 1SS119
D18 1SS119
RD5.1ESB2
OPEN
V (B)
H (



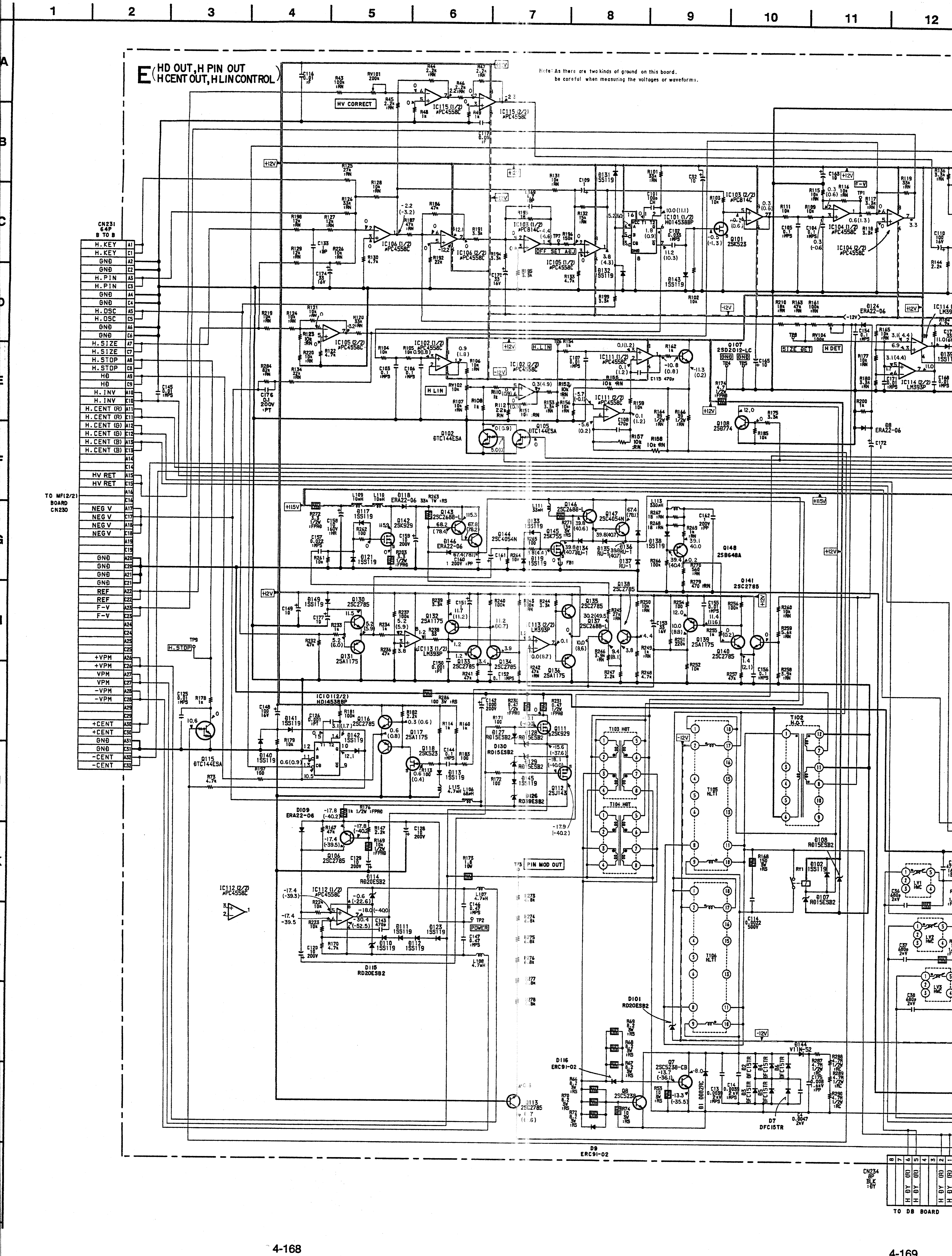
DC BOARD

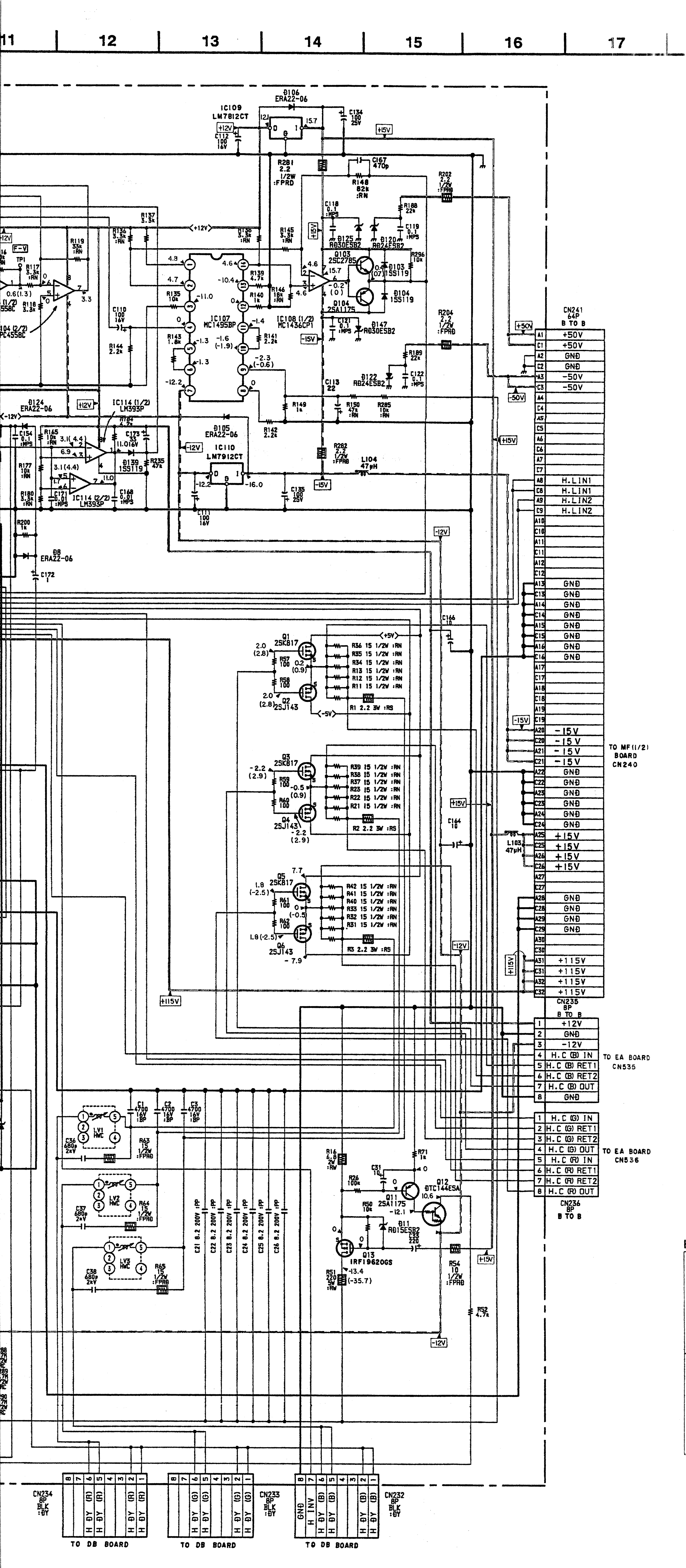
Function of Semiconductor

D1	RD5.1ESB2	IKO (+) REF Z	Q1	2SC3421-Y	–50 IK DETECTOR
D2	RD5.1ESB2	IKO (–) REF Z	Q2	2SA1358-Y	+50 IK DETECTOR
D3	RD5.1ESB2	DCP (+) REF Z	Q3	DTC144ESA	DC PROTECTOR SW
D4	RD5.1ESB2	DCP (–) REF Z	Q4	DTC144ESA	IK OVER SW
D17	1SS119-25TD	VPR CLP	Q5	2SC2785TP-HFE	+50 REF BUFFER
D18	1SS119-25TD	HPR CLP	Q6	2SA1175TP-HFE	–50 REF BUFFER
			Q7	2SA1175TP-HFE	+V OVER SW
IC1(1/2)	LM393P	DC PROTECTOR (+)	Q8	2SC2785TP-HFE	–V OVER SW
IC1(2/2)	LM393P	DC PROTECTOR (–)	Q9	2SC2785TP-HFE	+V PEAK BUFFER
IC2(1/2)	LM393P	IK OVER (+)	Q10	2SA1175TP-HFE	–V PEAK BUFFER
IC2(2/2)	LM393P	IK OVER (–)	Q11	2SC3421-Y	VSA POWER ON RESET
IC3	STK-392-220	V SUB AMP	Q12	2SC3421-Y	HSA POWER ON RESET
IC4	STK-392-220	H SUB AMP			

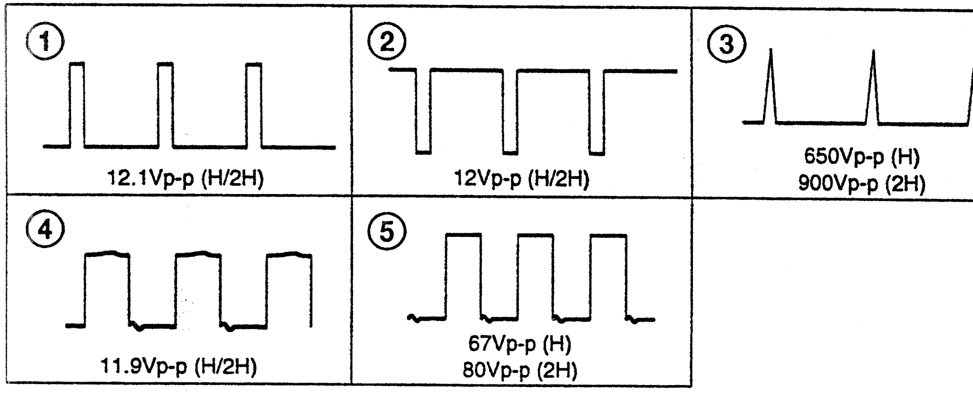

10
11
12
13
14
15
16
17
18
19
20
IC3
STK392-220
V (B)
V (G)
V (R)
④
⑤
⑥
+50V
-50V
Q11
2SC3421
D17
1SS119
IC4
STK392-220
H (B)
H (G)
H (R)
①
②
③
Q12
2SC3421
D18
1SS119
H.S (R) OUT
H.S (R) RET
H.S (G) OUT
H.S (G) RET
H.S (B) OUT
H.S (B) RET
V.S (R) OUT
V.S (R) RET
V.S (G) OUT
V.S (G) RET
V.S (B) OUT
V.S (B) RET
R108 120 3W :RS
R109 120 3W :RS
R110 120 3W :RS
R105 120 3W :RS
R106 120 3W :RS
R107 120 3W :RS
TO MF (1/2) BOARD CN290
CN291 64P B TO B
CN302 8P B TO B
CN303 8P B TO B
CN304 8P B TO B
CN307 8P B TO B
CN306 8P B TO B
CN305 8P B TO B
TO DCR (HR) BOARD CN2
TO DCR (HG) BOARD CN2
TO DCR (HB) BOARD CN2
TO DCR (VB) BOARD CN2
TO DCR (VG) BOARD CN2
TO DCR (VR) BOARD CN2

- **E (HD OUT, H PIN OUT, H CENT OUT, H LIN CONTROL) DIAGRAM**
- Refer to page 4-173 for Function of Semiconductor


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
E (HD OUT, H PIN OUT H CENT OUT, H LIN CONTROL)
Note: As there are two kinds of ground on this board, be careful when measuring the voltages or waveforms.
CN231 64P B TO B
H.KEY
H.KEY
GND
GND
H.PIN
H.PIN
GND
GND
H.OSC
H.OSC
GND
GND
H.SIZE
H.SIZE
H.STOP
H.STOP
HD
HD
H.INV
H.INV
H.CENT (R)
H.CENT (R)
H.CENT (G)
H.CENT (G)
H.CENT (B)
H.CENT (B)
HV RET
HV RET
NEG V
NEG V
NEG V
NEG V
GND
GND
GND
GND
REF
REF
F-V
F-V
+VPM
+VPM
VPM
VPM
-VPM
-VPM
+CENT
+CENT
GND
GND
-CENT
-CENT
TO MF(2/2) BOARD CN230
HV CORRECT
OFF SET ADJ
H LIN
SIZE SET
H DET
H.STOP
PIN MOD OUT
POWER
IC115 (1/2) μPC4558C
IC115 (2/2) μPC4558C
IC106 (1/2) μPC4558C
IC106 (2/2) μPC4558C
IC103 (1/2) μPC814C
IC103 (2/2) μPC814C
IC105 (1/2) μPC4558C
IC105 (2/2) μPC4558C
IC101 (1/2) HD14538BP
IC101 (2/2) HD14538BP
IC102 (1/2) μPC4558C
IC102 (2/2) μPC4558C
IC111 (1/2) μPC4558C
IC111 (2/2) μPC4558C
IC104 (1/2) μPC4558C
IC104 (2/2) μPC4558C
IC114 (2/2) LM393P
IC113 (1/2) LM393P
IC113 (2/2) LM393P
IC112 (1/2) μPC4558C
IC112 (2/2) μPC4558C
T103 HBT
T104 HBT
T105 HLT1
T106 HLT1
T102 H.O.T
Q101 2SK523
Q107 2SD2012-LC
Q108 2SB774
Q102 DTC144ESA
Q105 DTC144ESA
Q115 DTC144ESA
Q113 2SC2785
Q7 2SC5238-CB
Q8 2SC5238
D116 ERC91-02
D9 ERC91-02
D101 RD20ESB2
CN234 8P BLK :BY
H DY (R)
H DY (G)
H DY (B)
TO DB BOARD

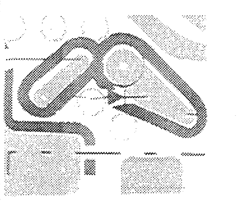

11
12
13
14
15
16
17
IC109 LM7812CT
D106 ERA22-06
C134 100 25V
R281 2.2 1/2W :FPRD
C167 470p
R148 82k :RN
IC107 MC1495BP
IC108 (1/2) MC1436CP1
Q103 2SC2785
Q104 2SA1175
D125 RD30ESB2
D120 RD24ESB2
D103 1SS119
D104 1SS119
D147 RD30ESB2
D122 RD24ESB2
R202 2.2 1/2W :FPRD
R204 2.2 1/2W :FPRD
IC114 (1/2) LM393P
IC114 (2/2) LM393P
D124 ERA22-06
D105 ERA22-06
IC110 LM7912CT
L104 47μH
D8 ERA22-06
CN241 64P B TO B
A1 +50V
C1 +50V
A2 GND
C2 GND
A3 -50V
C3 -50V
A8 H.LIN1
C8 H.LIN1
A9 H.LIN2
C9 H.LIN2
A13 GND
C13 GND
A14 GND
C14 GND
A15 GND
C15 GND
A16 GND
C16 GND
A20 -15V
C20 -15V
A21 -15V
C21 -15V
A22 GND
C22 GND
A23 GND
C23 GND
A24 GND
C24 GND
A25 +15V
C25 +15V
A26 +15V
C26 +15V
A28 GND
C28 GND
A29 GND
C29 GND
A31 +115V
C31 +115V
A32 +115V
C32 +115V
TO MF(1/2) BOARD CN240
Q1 2SK817
Q2 2SJ143
Q3 2SK817
Q4 2SJ143
Q5 2SK817
Q6 2SJ143
R1 2.2 3W :RS
R2 2.2 3W :RS
R3 2.2 3W :RS
L103 47μH
CN235 8P B TO B
1 +12V
2 GND
3 -12V
4 H.C (B) IN
5 H.C (B) RET1
6 H.C (B) RET2
7 H.C (B) OUT
8 GND
TO EA BOARD CN535
1 H.C (G) IN
2 H.C (G) RET1
3 H.C (G) RET2
4 H.C (G) OUT
5 H.C (R) IN
6 H.C (R) RET1
7 H.C (R) RET2
8 H.C (R) OUT
TO EA BOARD CN536
CN236 8P B TO B
LV1 HWC
LV2 HWC
LV3 HWC
C1 4700 16V :BP
C2 4700 16V :BP
C3 4700 16V :BP
C21 8.2 200V :PP
C22 8.2 200V :PP
C23 8.2 200V :PP
C24 8.2 200V :PP
C25 8.2 200V :PP
C26 8.2 200V :PP
Q11 2SA1175
Q12 DTC144ESA
Q13 IRFI9620GS
D11 RD15ESB2
CN234 8P BLK :BY
CN233 8P BLK :BY
CN232 8P BLK :BY
H DY (R)
H DY (G)
H DY (B)
GND
H INV
TO DB BOARD
TO DB BOARD
TO DB BOARD

E Board Waveforms

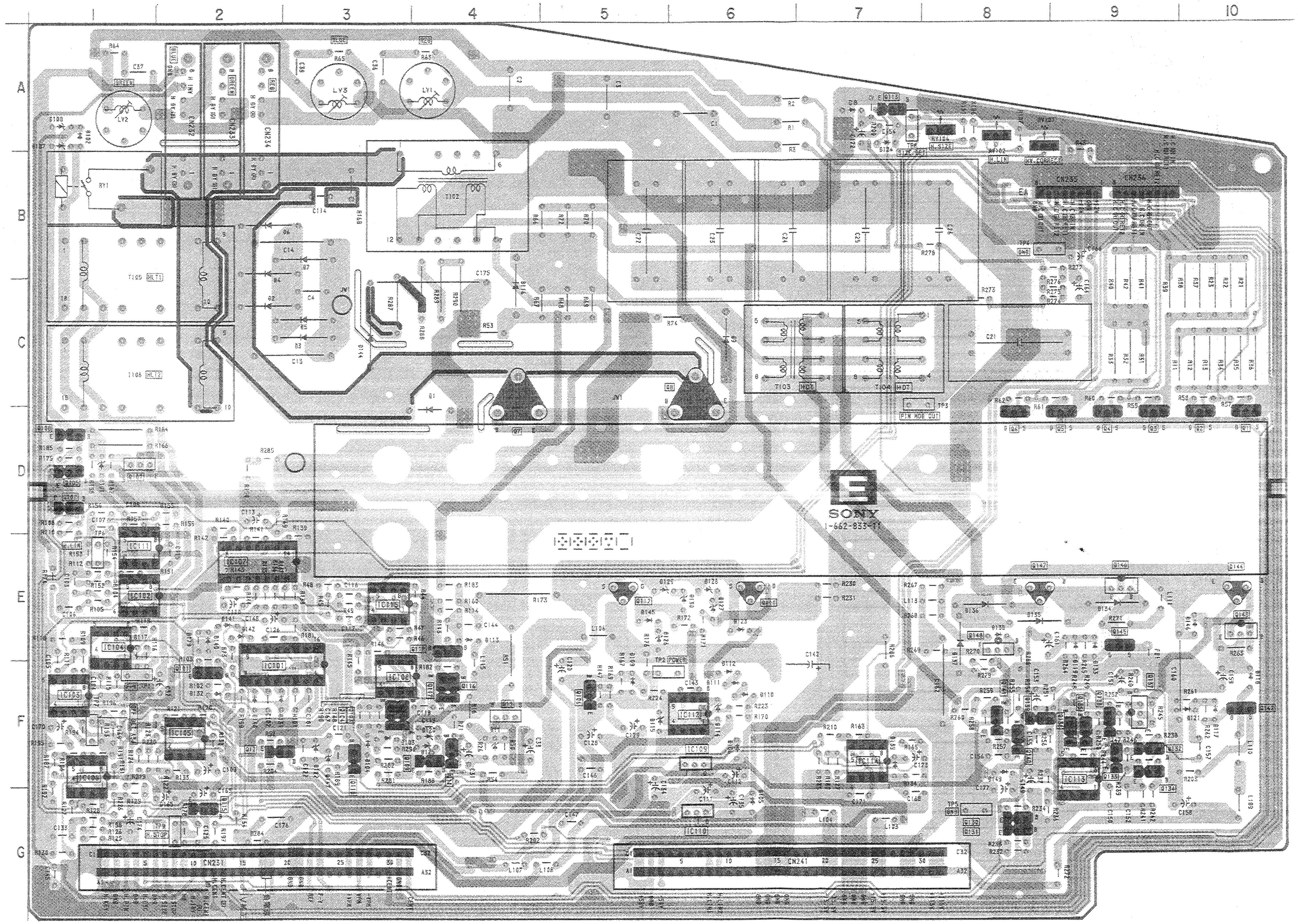


E (HD OUT, H PIN OUT, H CENT OUT, H LIN CONTROL) BOARD

— E BOARD — <Conductor side>



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
LY1
LY2
LY3
RY1
T102
T103
T104
T105
T106
CN231
CN232
CN233
CN234
CN235
CN236
CN241
IC101
IC102
IC103
IC104
IC105
IC106
IC107
IC108
IC109
IC110
IC111
IC112
IC113
IC114
IC115
TP2 POWER
E
SONY
1-662-833-11

• ▨: Pattern from the side which enables seeing.
• ▨: Pattern of the rear side.

E BOARD
Semiconductors Location

DIODE	
D1	D-4
D2	C-2
D3	C-3
D4	B-2
D5	C-3
D6	B-2
D7	B-3
D8	A-7
D9	C-6
D10	D-1
D11	F-4
D102	A-1
D103	F-3
D104	F-3
D105	G-6
D106	F-6
D107	A-1
D108	A-1
D109	F-5
D110	F-6
D111	F-6
D112	F-6
D113	E-4
D114	F-6
D115	F-5
D116	C-4
D117	F-10
D118	F-10
D119	E-9
D120	F-4
D121	F-10
D122	F-3
D123	E-6
D124	A-7
D125	F-4
D126	E-5
D127	E-6
D128	E-6
D129	E-5
D130	E-6
D131	F-2
D132	F-2
D133	E-9
D134	E-9
D135	E-8
D136	E-8
D137	E-8
D138	E-8
D139	F-7
D140	E-2
D141	E-2
D142	E-2
D143	F-2
D144	C-3
D145	E-5
D146	E-10
D147	F-3
D149	F-8
IC	
IC101	F-2
IC102	E-1
IC103	F-1
IC104	E-1
IC105	F-2
IC106	E-1
IC107	E-1
IC108	F-3
IC109	F-6
IC110	G-6
IC111	E-1
IC112	F-6
IC113	F-9
IC114	F-7
IC115	E-3
TRANSISTOR	
Q1	D-10
Q2	D-10
Q3	D-9
Q4	D-9
Q5	D-9
Q6	D-8
Q7	C-4
Q8	C-6
Q11	F-4
Q12	F-2
Q13	F-4
Q101	F-2
Q102	D-1
Q103	F-3
Q104	F-3
Q105	D-1
Q106	F-5
Q107	D-1
Q108	D-1
Q111	E-6
Q112	E-5
Q113	A-7
Q115	G-2
Q116	F-4
Q117	F-4
Q118	E-4
Q130	G-8
Q131	G-8
Q132	F-9
Q133	F-9
Q134	F-9
Q135	F-9
Q136	F-9
Q137	F-9
Q138	F-9
Q139	F-8
Q140	F-8
Q141	F-8
Q142	F-10
Q143	E-10
Q144	E-10
Q145	E-9
Q146	E-9
Q147	E-8
Q148	E-8
VARIABLE RESISTOR	
RV101	A-8
RV102	A-8
RV104	A-8
TEST POINT	
TP1	F-1
TP2	F-5
TP3	D-7
TP4	B-8
TP5	G-8
TP6	E-1
TP7	F-1
TP8	A-7
TP9	G-2

E BOARD

Function of Semiconductor (1/2)

D1	DD82RC-SONY	H OUT DAMPER	IC101	HD14538BP	H PULSE GENERATOR
D2	DFC15TR	H OUT DAMPER	IC102	uPC4558C	H LIN CONT
D3	DFC15TR	H OUT DAMPER	IC103	uPC814C	F-V AMP
D4	DFC15TR	H OUT DAMPER	IC104	uPC4558C	F-V AMP
D5	DFC15TR	H OUT DAMPER	IC105	uPC4558C	F-V AMP
D6	DFC15TR	H OUT DAMPER	IC106	uPC4558C	F-V AMP
D7	DFC15TR		IC107	MC1495BP	MOD LEVEL CONT
D8	ERA22-06AVRBT		IC108	MC1436CPI	PIN MOD PRE AMP
D9	ERC91-02		IC109	LM7812CT	+12V REG
D11	RD15ES-B2	PROTECTOR	IC110	LM7912CT	–12V REG
D101	RD20ES-B2	PROTECTOR	IC111	uPC4558C	H LIN CONT
D102	1SS119-25TD	RELAY PROTECTOR	IC112	uPC4558C	PIN MOD AMP
D103	1SS119-25TD	PROTECTOR	IC113	LM393P	H OSC DETECTOR
D104	1SS119-25TD	PROTECTOR	IC114	LM393P	H SIZE PROTECTOR
D105	ERA22-06AVRVT	–12V REG PROTECTOR	IC115	uPC4558C	HV CORRECT AMP
D106	ERA22-06AVRVT	+12V REG PROTECTOR			
D107	RD15ES-B2	PROTECTOR	Q1	2SK817	H CENT (B) OUT
D108	RD15ES-B2	PROTECTOR	Q2	2SJ143	H CENT (B) OUT
D109	ERA22-06AVRBT	CLAMP	Q3	2SK817	H CENT (G) OUT
D110	1SS119-25TD	LEVEL SHIFT	Q4	2SJ143	H CENT (G) OUT
D111	1SS119-25TD	LEVEL SHIFT	Q5	2SK817	H CENT (R) OUT
D112	1SS119-25TD	LEVEL SHIFT	Q6	2SJ143	H CENT (R) OUT
D113	1SS119-25TD	CLAMP	Q7	2SC5238-CB	H OUT
D114	RD20ES-B2	PROTECTOR	Q8	2SC5238-CB	
D115	RD20ES-B2	PROTECTOR	Q11	2SA1175TP-HFE	PIN MOD DISCHARGE PROTECTOR
D116	ERC91-02	SPEED UP	Q12	DTC144ESA-TP	PIN MOD DISCHARGE PROTECTOR
D117	1SS119-25TD	SPEED UP	Q13	IRFI9620GS	PIN MOD DISCHARGE
D118	ERA22-06AVRBT	RECT	Q101	2SK523TP-M1	F-V SW
D119	1SS119-25TD	CLAMP	Q102	DTC144ESA-TP	H LIN SW
D120	RD24ES-B2	REFERENCE	Q103	2SC2785TP-HFE	PIN MOD BUFFER
D121	1SS119-25TD	CLAMP	Q104	2SA1175TP-HFE	PIN MOD BUFFER
D122	RD24ES-B2	REFERENCE	Q105	DTC144ESA-TP	H LIN SW
D123	1SS119-25TD	LEVEL SHIFT	Q106	2SC2785TP-HFE	PIN MOD BUFFER
D124	ERA22-06AVRBT	H SIZE DETECTOR	Q107	2SD2012-LC	LIN CONT OUT
D125	RD30ES-B2	PROTECTOR	Q108	2SD774-T-34	RELAY CONT
D126	RD39ES-B2	PROTECTOR	Q111	2SK929	H PIN OUT
D127	RD15ES-B2	PROTECTOR	Q112	2SJ143	H PIN OUT
D128	RD15ES-B2	PROTECTOR	Q113	2SC2785TP-HFE	H SIZE CONST
D129	RD15ES-B2	PROTECTOR	Q115	DTC144ESA-TP	H STOP PROTECTOR
D130	RD15ES-B2	PROTECTOR	Q116	2SC2785TP-HFE	HD OUT
D131	1SS119-25TD	PROTECTOR	Q117	2SA1175TP-HFE	HD OUT
D132	1SS119-25TD	PROTECTOR	Q118	2SK523TP-M1	HD PRE DRIVE
D133	1SS119-25TD	SPEED UP	Q130	2SC2785TP-HFE	H OSC BUFFER
D134	RU-1	H DRIVE PROTECTOR	Q131	2SA1175TP-HFE	H OSC BUFFER
D135	RU-1	H DRIVE PROTECTOR	Q132	2SA1175TP-HFE	CONST AMP
D136	RU-1	H DRIVE PROTECTOR	Q133	2SC2785TP-HFE	CONST AMP
D137	RU-1	H DRIVE PROTECTOR	Q134	2SC2785TP-HFE	CONST AMP
D138	1SS119-25TD	THERM CANCEL	Q135	2SC2785TP-HFE	VARIABLE REG DRIVE
D139	1SS119-25TD	H SIZE PROT SW	Q136	2SA1175TP-HFE	VARIABLE REG DRIVE
D140	1SS119-25TD	DISCHARGE	Q137	2SC2688-L	IB CONSTANT
D141	1SS119-25TD	H STOP GATE	Q138	2SC2785TP-HFE	IB CONSTANT
D142	1SS119-25TD	H STOP GATE	Q139	2SA1175TP-HFE	IB CONSTANT
D143	1SS119-25TD	CLAMP	Q140	2SC2785TP-HFE	IB CONSTANT
D144	V11N-52	PULSE	Q141	2SC2785TP-HFE	PULSE DETECTOR
D145	1SS119-25TD	PIN MOD PROTECTOR	Q142	2SK929	VARIABLE REG OUT
D146	ERA22-06AVRBT	PROTECTOR	Q143	2SC2688-L	H DRIVE REG
D147	RD30ES-B2	PROTECTOR	Q144	2SC4054N	H DRIVE REG
D149	1SS119-25TD	CHARGE	Q145	2SK755	H DRIVE

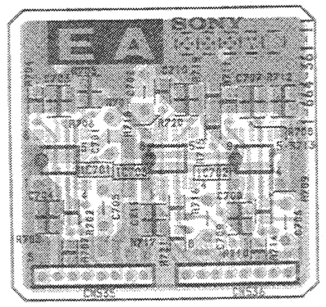
E BOARD

Function of Semiconductor (2/2)

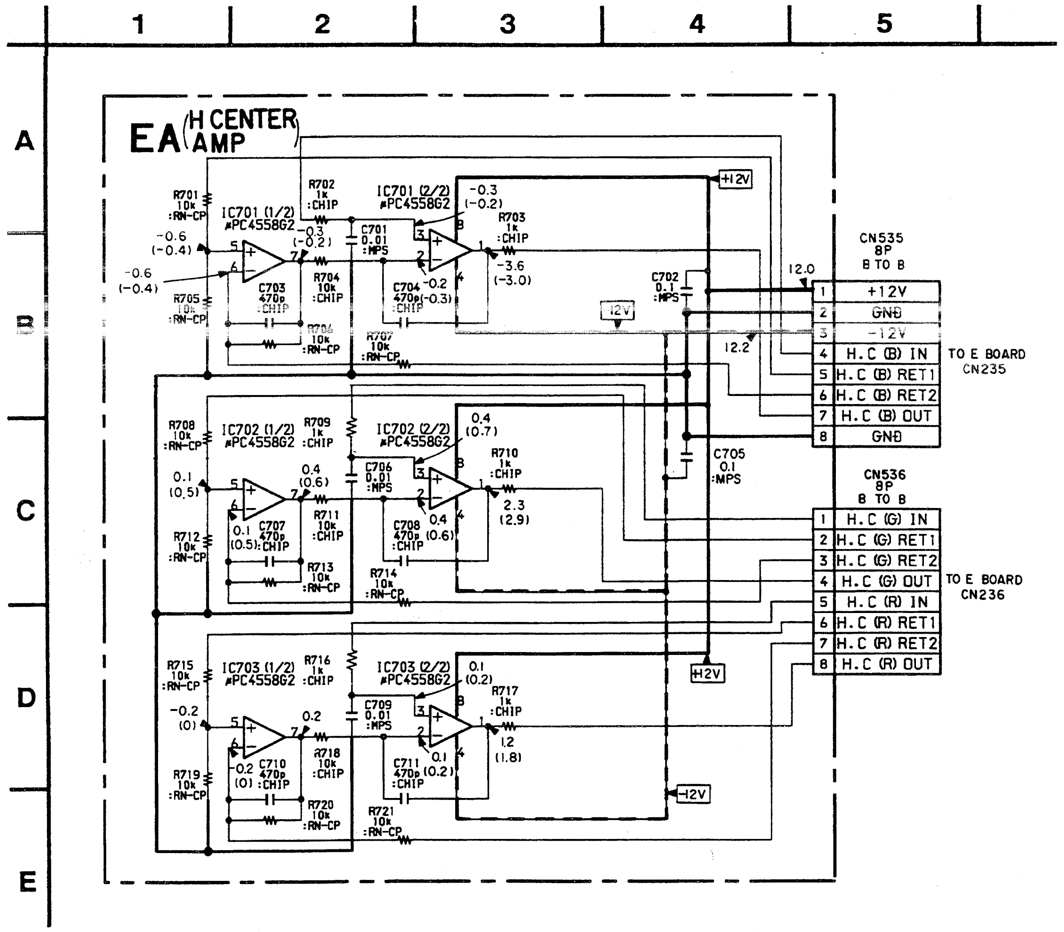
Q146	2SC2688-L	H DRIVE
Q147	2SC4054N	H DRIVE
Q148	2SB648A-C	IB DETECTOR

EA (H.CENTER AMP) BOARD

— EA BOARD — <Conductor side>


SONY
EA
CN535
CN536

• EA (H.CENTER AMP) DIAGRAM


1
2
3
4
5
A
B
C
D
E
EA (H CENTER AMP)
IC701 (1/2) μPC4558G2
IC701 (2/2) μPC4558G2
IC702 (1/2) μPC4558G2
IC702 (2/2) μPC4558G2
IC703 (1/2) μPC4558G2
IC703 (2/2) μPC4558G2
+12V
-12V
12.0
12.2
C702 0.1 :MPS
C705 0.1 :MPS
CN535 8P B TO B
1 +12V
2 GND
3 -12V
4 H.C (B) IN
5 H.C (B) RET1
6 H.C (B) RET2
7 H.C (B) OUT
8 GND
TO E BOARD CN235
CN536 8P B TO B
1 H.C (G) IN
2 H.C (G) RET1
3 H.C (G) RET2
4 H.C (G) OUT
5 H.C (R) IN
6 H.C (R) RET1
7 H.C (R) RET2
8 H.C (R) OUT
TO E BOARD CN236

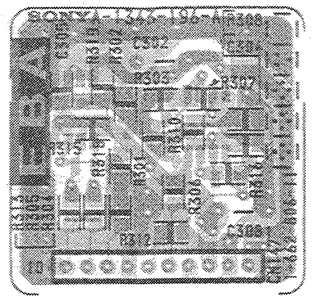
EA BOARD

Function of Semiconductor

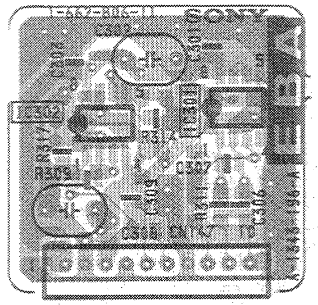
IC701	uPC4558G2	H CENT B CONT
IC702	uPC4558G2	H CENT G CONT
IC703	uPC4558G2	H CENT R CONT

EBA (R.G.B) (MG H/V AMP) BOARD

— EBA BOARD — <Conductor side>

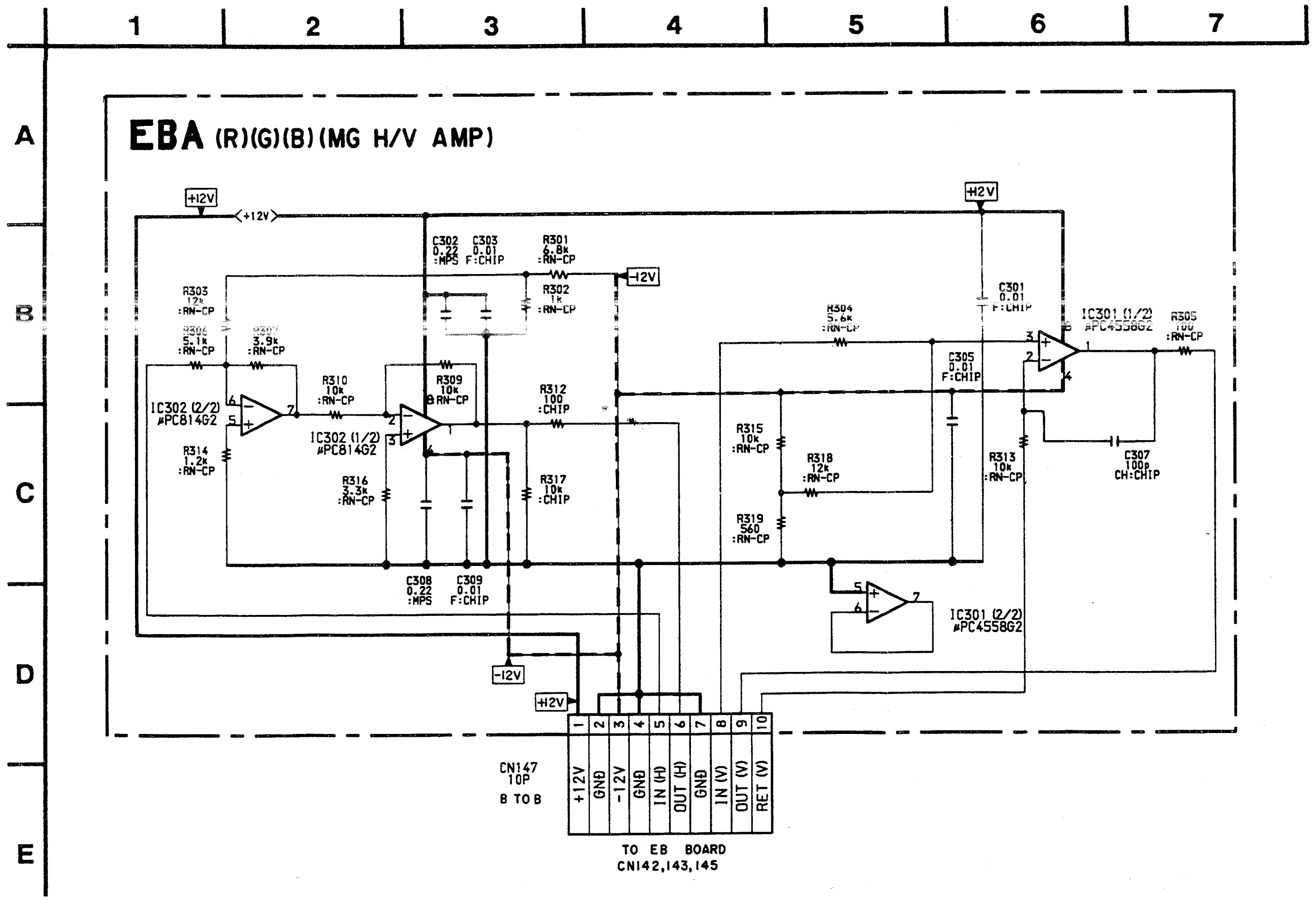


— EBA BOARD — <Component side>


SONY
EBA
C301
C302
C307
R309
R314

- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

• EBA (R.G.B) (MG H/V AMP) DIAGRAM


1
2
3
4
5
6
7
A
B
C
D
E
EBA (R)(G)(B)(MG H/V AMP)
+12V
-12V
IC301 (1/2) μPC4558G2
IC301 (2/2) μPC4558G2
IC302 (1/2) μPC814G2
IC302 (2/2) μPC814G2
C308 0.22 :MPS
C309 0.01 F:CHIP
C307 100p CH:CHIP
CN147 10P B TO B
1 +12V
2 GND
3 -12V
4 GND
5 IN (H)
6 OUT (H)
7 GND
8 IN (V)
9 OUT (V)
10 RET (V)
TO EB BOARD CN142,143,145

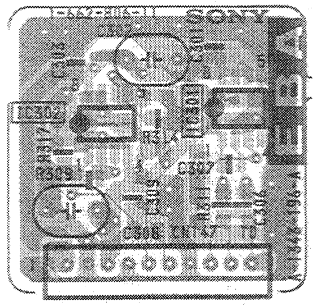
EBA BOARD

Function of Semiconductor

IC301	uPC4558G2-T2	MG V AMP
IC302	uPC814G2-T1	MG H AMP

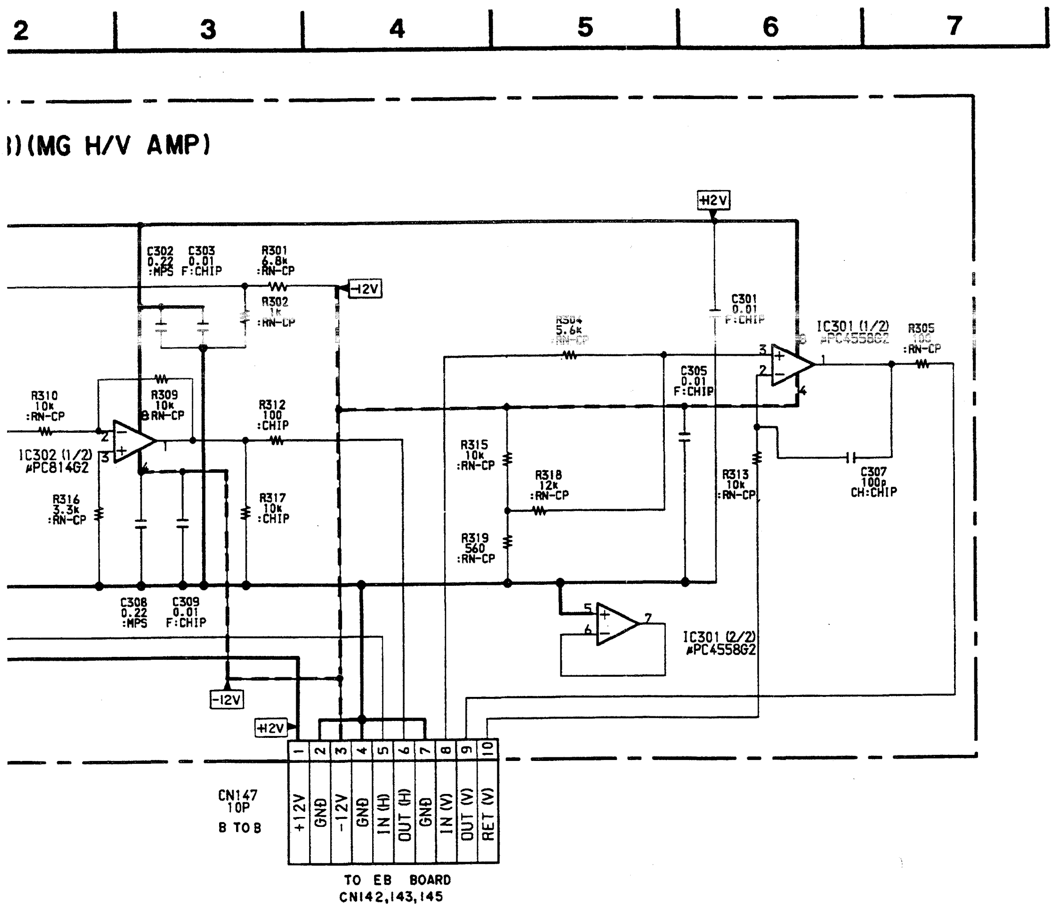
/V AMP) BOARD

— EBA BOARD —
<Component side>



- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

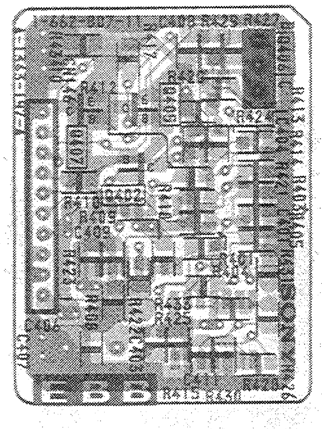
AMP) DIAGRAM


2
3
4
5
6
7
) (MG H/V AMP)
+12V
C302 0.22 :MPS
C303 0.01 F:CHIP
R301 6.8k :RN-CP
R302 1k :RN-CP
R304 5.6k :RN-CP
R305 1k :RN-CP
C301 0.01 F:CHIP
IC301 (1/2) µPC4558G2
C305 0.01 F:CHIP
R310 10k :RN-CP
R309 10k :RN-CP
IC302 (1/2) µPC814G2
R312 100 :CHIP
R315 10k :RN-CP
R318 12k :RN-CP
R313 10k :RN-CP
C307 100p CH:CHIP
R316 3.3k :RN-CP
R317 10k :CHIP
R319 560 :RN-CP
C308 0.22 :MPS
C309 0.01 F:CHIP
IC301 (2/2) µPC4558G2
-12V
+12V
CN147 10P B TO B
+12V
GND
-12V
GND
IN (H)
OUT (H)
GND
IN (V)
OUT (V)
RET (V)
TO EB BOARD CN142,143,145

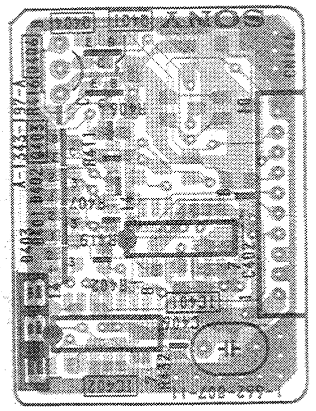
	MG V AMP
	MG H AMP

EBB (MG H.RGB AMP) BOARD

— EBB BOARD —
<Conductor side>



— EBB BOARD —
<Component side>

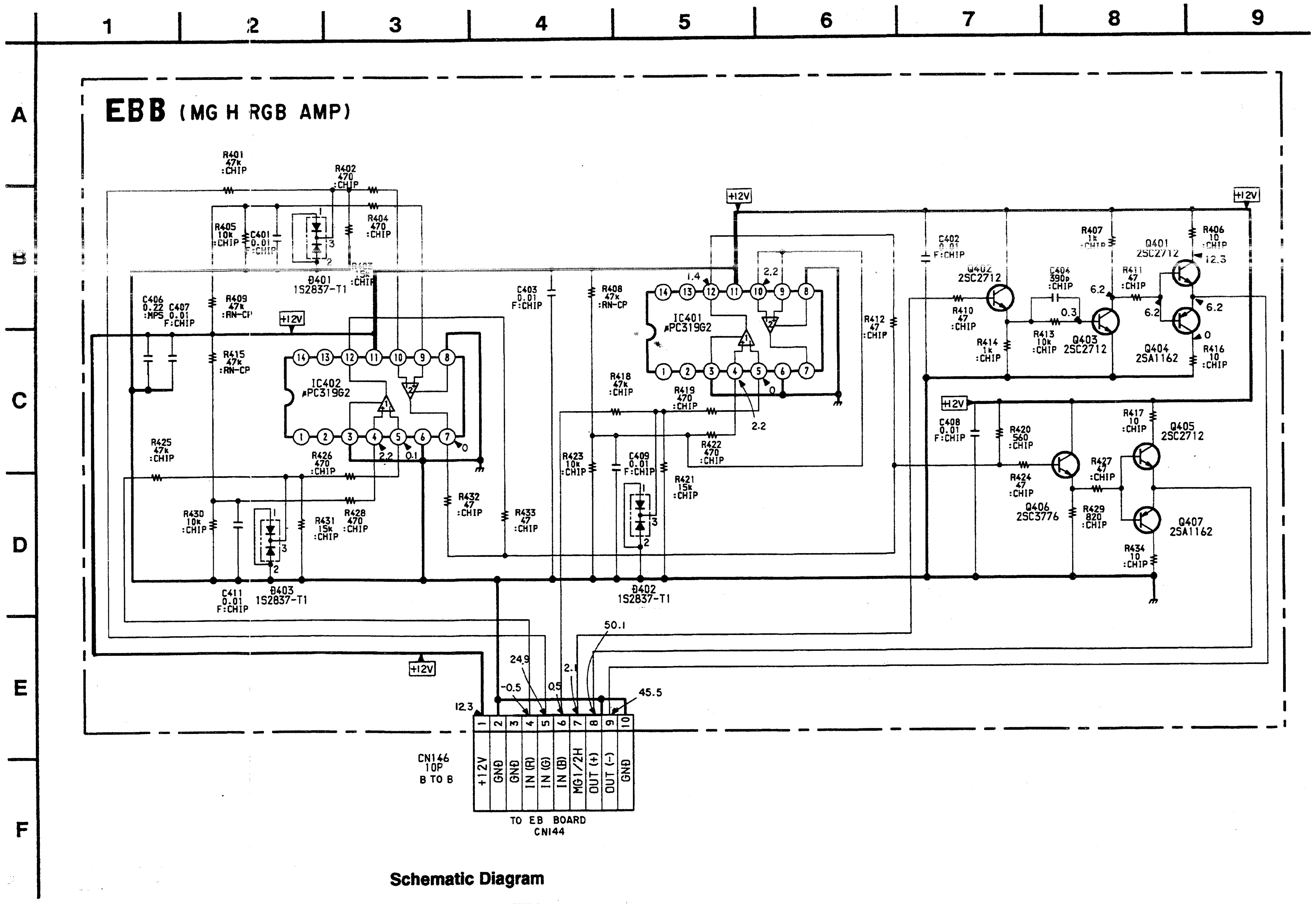


EBB BOARD

Function of Semiconductor

D401	1S2837	PROTECTOR
D402	1S2837	PROTECTOR
D403	1S2837	PROTECTOR
IC401	uPC319G2-T1	+PULSE GENERATOR
IC402	uPC319G2-T1	+PULSE GENERATOR
Q401	2SC2712-YG	+PULSE BUFFER
Q402	2SC2712-YG	+PULSE BUFFER
Q403	2SC2712-YG	+PULSE INVERTER
Q404	2SA1162-YG	+PULSE BUFFER
Q405	2SC2712-YG	–PULSE BUFFER
Q406	2SC3776-CD-AA	–PULSE BUFFER
Q407	2SA1162-YG	–PULSE BUFFER

• EBB (MG H.RGB AMP) DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
EBB (MG H RGB AMP)
R401 47k :CHIP
R402 470 :CHIP
R404 470 :CHIP
R405 10k :CHIP
C401 0.01 F:CHIP
D401 1S2837-T1
C406 0.22 :MPS
C407 0.01 F:CHIP
R409 47k :RN-CP
R415 47k :RN-CP
+12V
IC402 µPC319G2
R425 47k :CHIP
R426 470 :CHIP
R430 10k :CHIP
R431 15k :CHIP
R428 470 :CHIP
C411 0.01 F:CHIP
D403 1S2837-T1
R432 47 :CHIP
R433 47 :CHIP
C403 0.01 F:CHIP
R408 47k :RN-CP
IC401 µPC319G2
R418 47k :CHIP
R419 470 :CHIP
R423 10k :CHIP
C409 0.01 F:CHIP
R422 470 :CHIP
R421 15k :CHIP
D402 1S2837-T1
R412 47 :CHIP
C402 0.01 F:CHIP
Q402 2SC2712
R410 47 :CHIP
R414 1k :CHIP
C404 390p :CHIP
R413 10k :CHIP
Q403 2SC2712
R407 1k :CHIP
R411 47 :CHIP
Q401 2SC2712
R406 10 :CHIP
Q404 2SA1162
R416 10 :CHIP
C408 0.01 F:CHIP
R420 560 :CHIP
R424 47 :CHIP
Q406 2SC3776
R427 47 :CHIP
R429 820 :CHIP
R417 10 :CHIP
Q405 2SC2712
Q407 2SA1162
R434 10 :CHIP
12.5
6.2
6.2
0.3
6.2
1.4
2.2
2.2
2.2
0.1
24.9
-0.5
0.5
2.1
50.1
45.5
12.3
CN146 10P B TO B
+12V
GND
GND
IN (R)
IN (G)
IN (B)
MG1/2H
OUT (+)
OUT (-)
GND
TO EB BOARD CN144

Schematic Diagram

← EA EBA EBB board

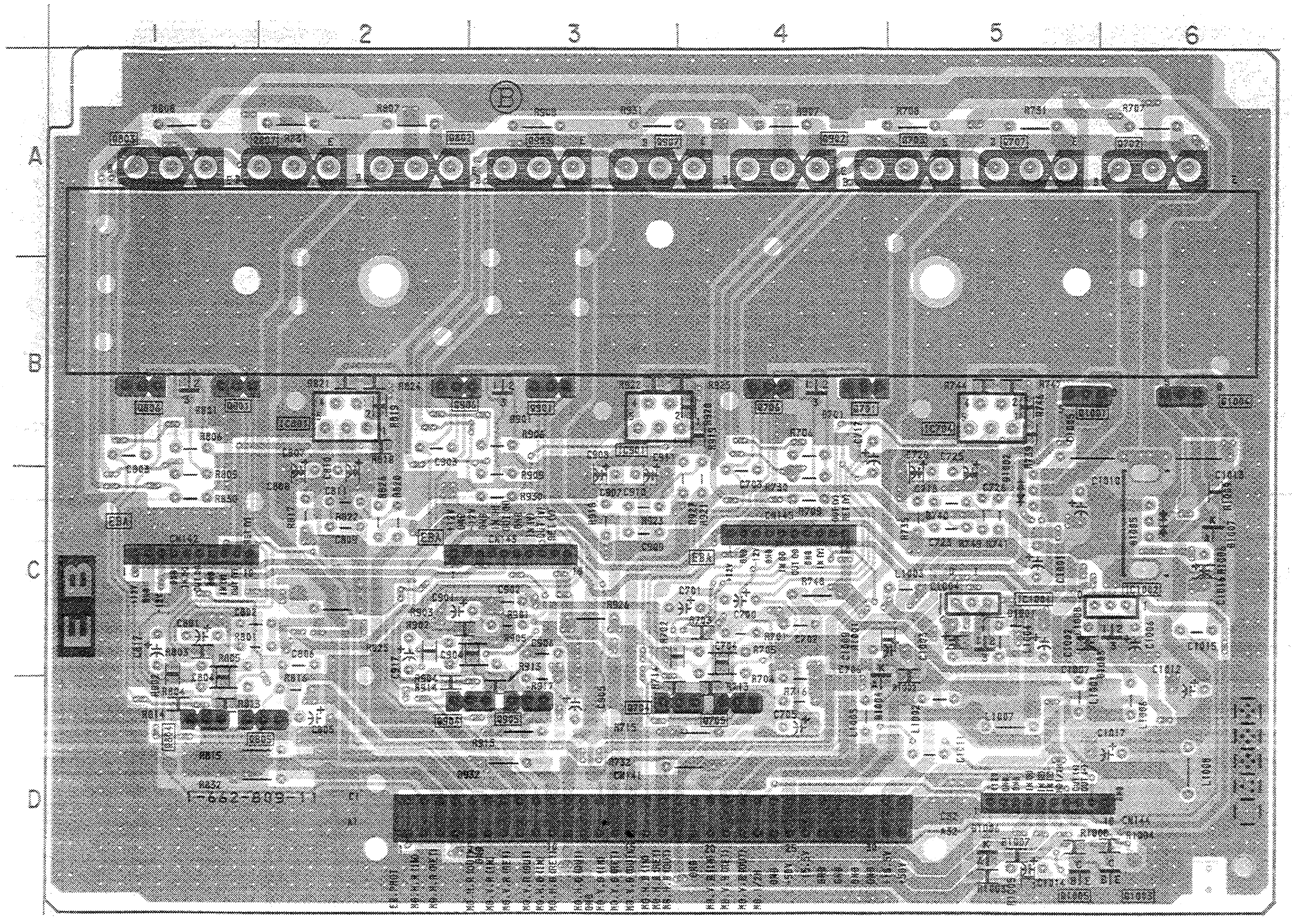
EB (MG H/V RGB OUT) BOARD

— EB BOARD — <Conductor side>

EB BOARD

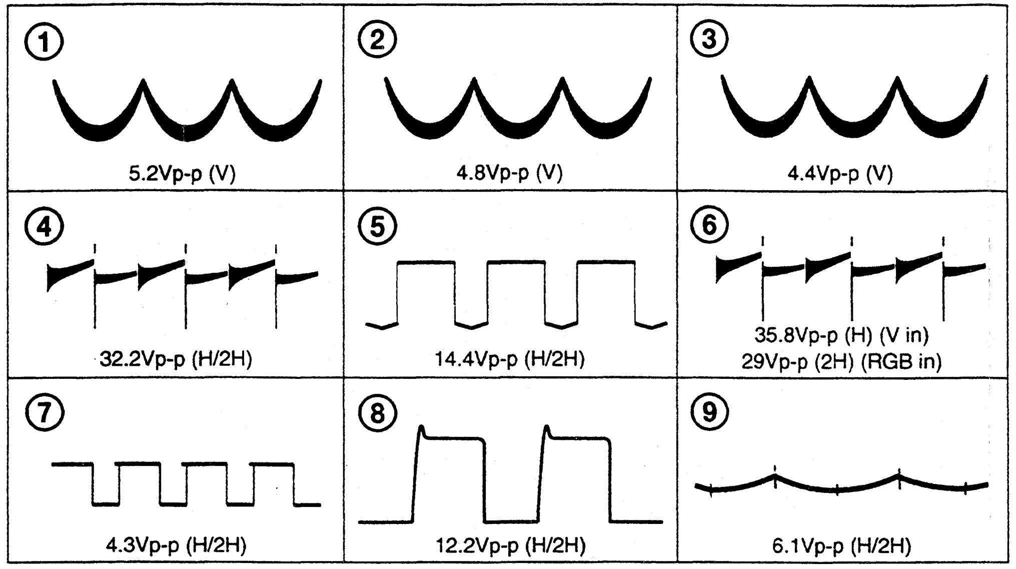
Semiconductors Location

DIODE	
D701	B-4
D802	B-1
D901	B-3
D1001	C-5
D1002	C-5
D1003	C-6
D1004	D-4
D1005	C-6
D1006	D-5
D1007	C-6
IC	
IC704	B-5
IC801	B-2
IC901	B-3
IC1001	C-5
IC1002	C-6
TRANSISTOR	
Q701	B-4
Q702	A-6
Q703	A-5
Q704	D-4
Q705	D-4
Q706	B-4
Q707	A-5
Q801	B-1
Q802	A-2
Q803	A-1
Q804	D-1
Q805	D-2
Q806	B-1
Q807	A-2
Q901	B-3
Q902	A-4
Q903	A-3
Q904	D-3
Q905	D-3
Q906	B-2
Q907	A-3
Q1001	B-5
Q1003	D-6
Q1004	D-6
Q1005	D-5



- ▒: Pattern from the side which enables seeing.
- ▒: Pattern of the rear side.

EB Board Waveforms

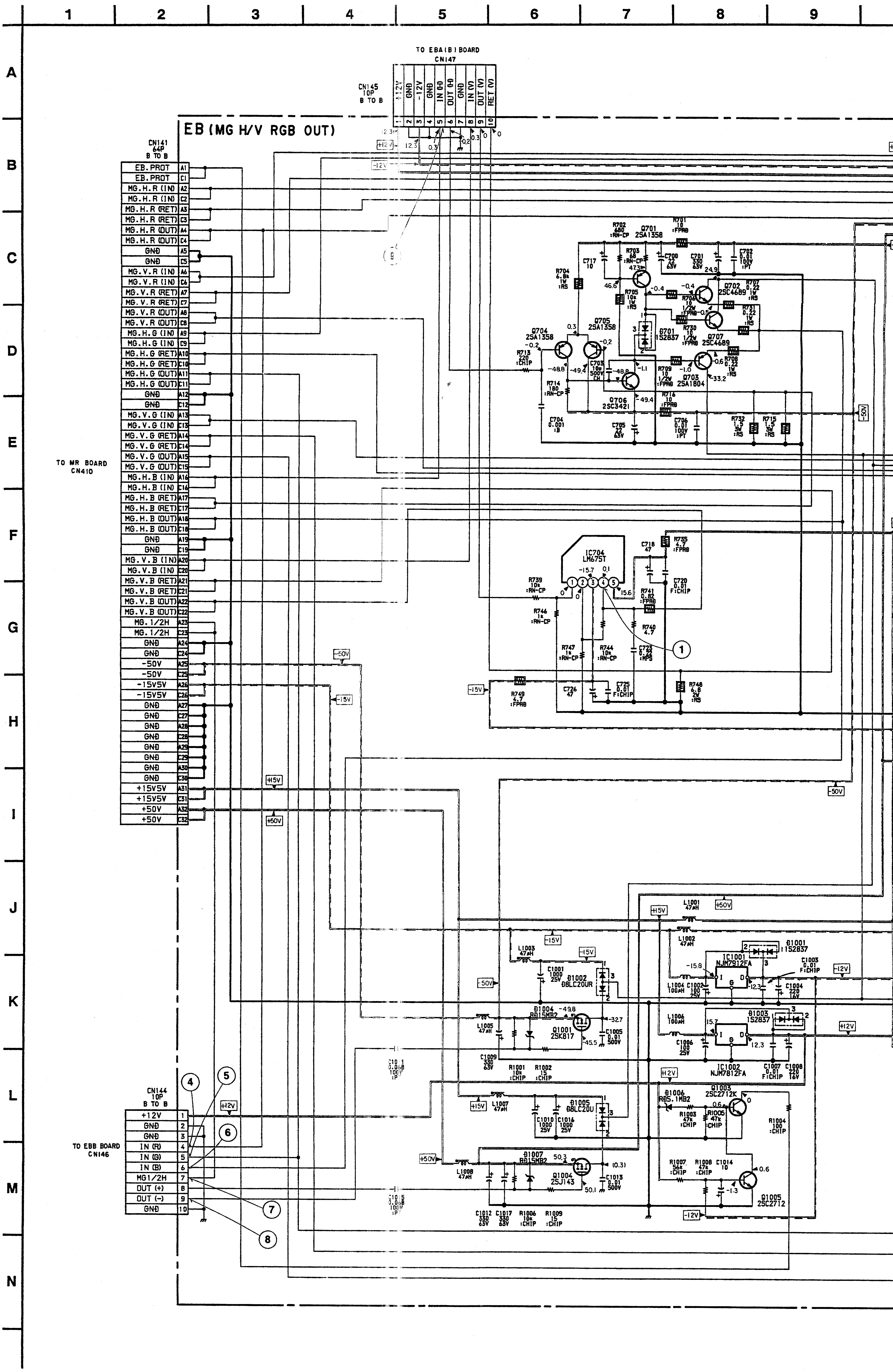


EB BOARD

Function of Semiconductor

D701	1S2837	LEVEL SHIFT
D801	1S2837	LEVEL SHIFT
D901	1S2837	LEVEL SHIFT
D1001	1S2837	PROTECTOR
D1002	D8LC20UR	–50, –15V SW
D1003	1S2837	PROTECTOR
D1005	D8LC20U	+50, +15V SW
D1006	RD5.1M-B2	LEVEL SHIFT
D1007	RD15M-B2	PROTECTOR
IC704	LM675T	MG (B) V OUT
IC801	LM675T	MG (G) V OUT
IC901	LM675T	MG (R) V OUT
IC1001	NJM7912FA	–12V REG
IC1002	NJM7812FA	+12V REG
Q701	2SA1358-Y	MG (B) H BUFFER
Q702	2SC4689-RO	MG (B) H OUT
Q703	2SA1804-RO	MG (B) H OUT
Q704	2SA1358-Y	MG (B) H AMP
Q705	2SA1358-Y	MG (B) H AMP
Q706	2SC3421-Y	MG (B) H AMP
Q707	2SC4689-RO	MG (B) H OUT
Q801	2SA1358-Y	MG (G) H BUFFER
Q802	2SC4689-RO	MG (G) H OUT
Q803	2SA1804-RO	MG (G) H OUT
Q804	2SA1358-Y	MG (G) H AMP
Q805	2SA1358-Y	MG (G) H AMP
Q806	2SC3421-Y	MG (G) H AMP
Q807	2SC4689-RO	MG (G) H OUT
Q901	2SA1358-Y	MG (R) H BUFFER
Q902	2SC4689-RO	MG (R) H OUT
Q903	2SA1804-RO	MG (R) H OUT
Q904	2SA1358-Y	MG (R) H AMP
Q905	2SA1358-Y	MG (R) H AMP
Q906	2SC3421-Y	MG (R) H AMP
Q907	2SC4689-RO	MG (R) H OUT
Q1001	2SK817	–50V SW
Q1003	2SC2712-YG	EB PROTECTOR
Q1004	2SJ143	+50V SW
Q1005	2SC2712-YG	EB PROTECTOR

• EB (MG H/V RGB OUT) DIAGRAM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J
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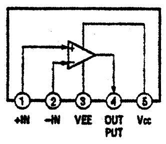
N
TO EBA(B) BOARD CN147
CN145 10P B TO B
+12V
GND
-12V
GND
IN (H)
OUT (H)
GND
IN (V)
OUT (V)
RET (V)
EB (MG H/V RGB OUT)
CN141 64P B TO B
TO MR BOARD CN410
EB.PROT
MG.H.R (IN)
MG.H.R (RET)
MG.H.R (OUT)
MG.V.R (IN)
MG.V.R (RET)
MG.V.R (OUT)
MG.H.G (IN)
MG.H.G (RET)
MG.H.G (OUT)
MG.V.G (IN)
MG.V.G (RET)
MG.V.G (OUT)
MG.H.B (IN)
MG.H.B (RET)
MG.H.B (OUT)
MG.V.B (IN)
MG.V.B (RET)
MG.V.B (OUT)
MG.1/2H
-50V
-15V5V
+15V5V
+50V
Q701 2SA1358
Q702 2SC4689
Q703 2SA1804
Q704 2SA1358
Q705 2SA1358
Q706 2SC3421
Q707 2SC4689
D701 1S2837
IC704 LM675T
CN144 10P B TO B
TO EBB BOARD CN146
IN (R)
IN (G)
IN (B)
MG1/2H
OUT (+)
OUT (-)
IC1001 NJM7912FA
IC1002 NJM7812FA
D1001 1S2837
D1002 D8LC20UR
D1003 1S2837
D1004 RB15MB2
D1005 D8LC20U
D1006 RB5.1MB2
D1007 RB15MB2
Q1001 2SK817
Q1003 2SC2712K
Q1004 2SJ143
Q1005 2SC2712
L1001 47μH
L1002 47μH
L1003 47μH
L1004 100μH
L1005 47μH
L1006 100μH
L1007 47μH
L1008 47μH
①
④
⑤
⑥
⑦
⑧

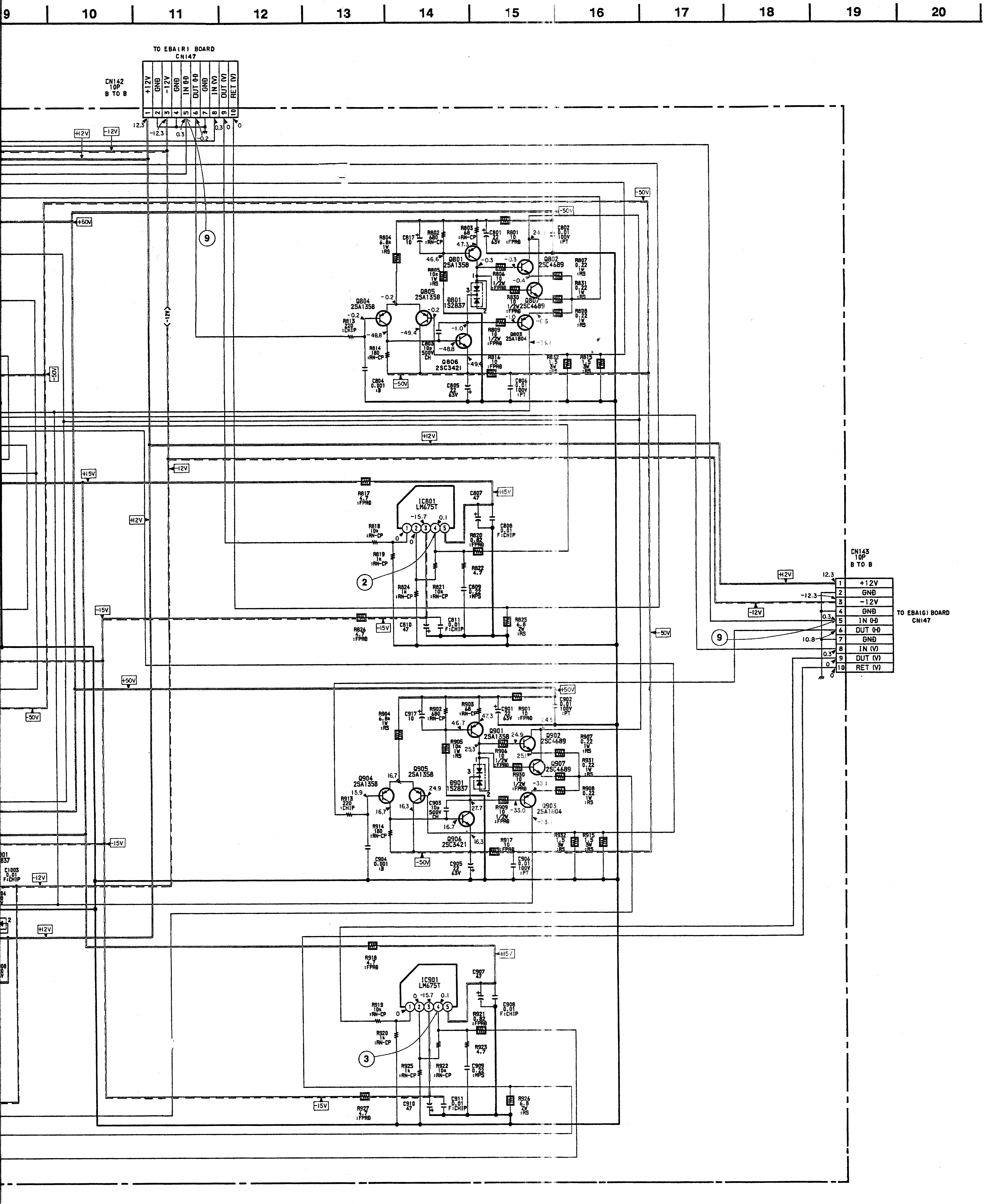
EB BOARD ——

IC Block Diagrams

LM675T

(IC704, 801, 901)


+IN
-IN
VEE
OUT PUT
Vcc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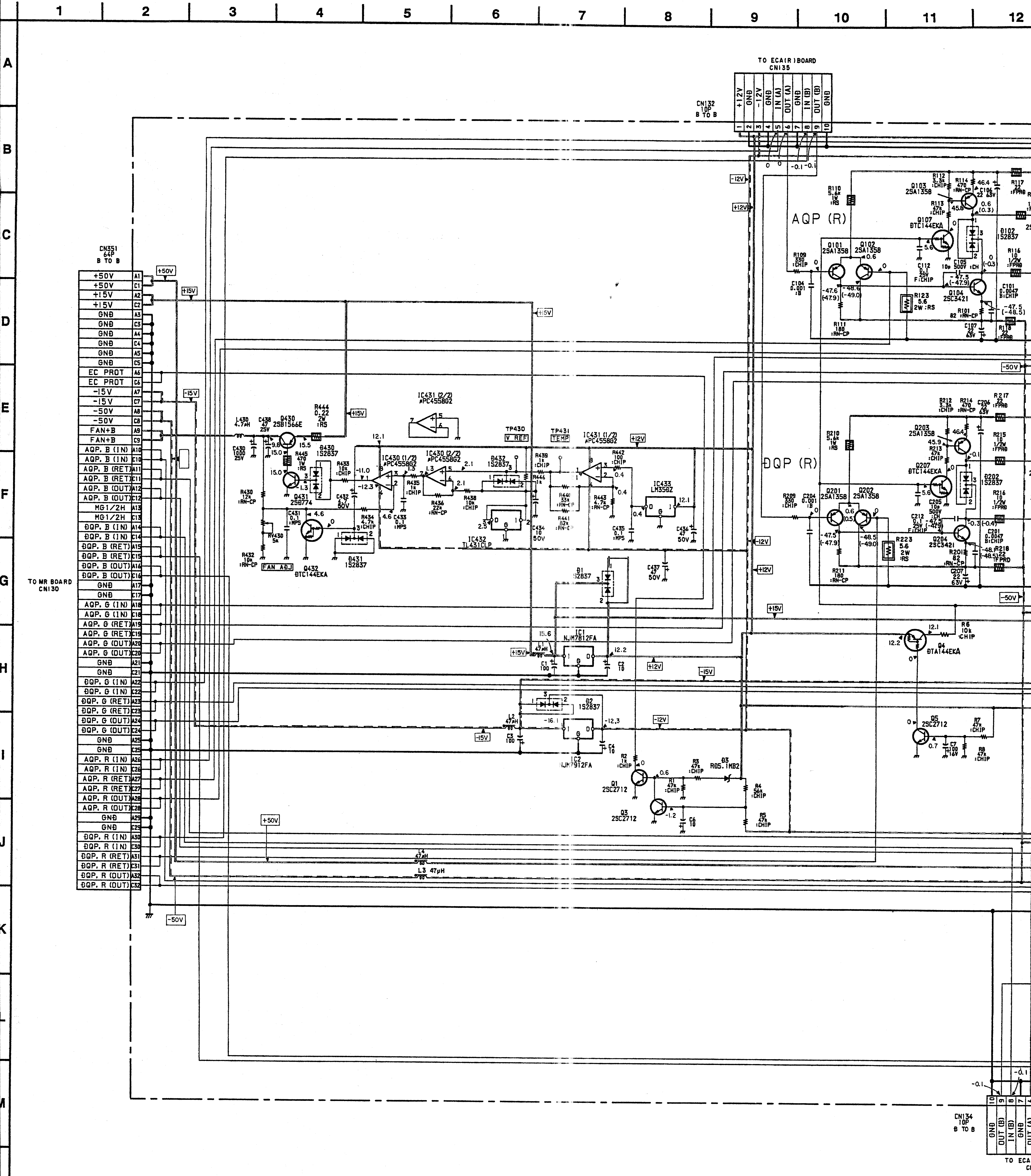
TO EBA(R) BOARD CN147
CN142 10P B TO B
+12V
GND
-12V
GND
IN (H)
OUT (H)
GND
IN (V)
OUT (V)
RET (V)
Q801 2SA1358
Q802 2SC4689
Q803 2SA1804
Q804 2SA1358
Q805 2SA1358
Q806 2SC3421
Q807 2SC4689
D801 1S2837
IC801 LM675T
CN143 10P B TO B
TO EBA(G) BOARD CN147
Q901 2SA1358
Q902 2SC4689
Q903 2SA1804
Q904 2SA1358
Q905 2SA1358
Q906 2SC3421
Q907 2SC4689
D901 1S2837
IC901 LM675T
+50V
-50V
+15V
-15V
+12V
-12V
9
2
3

Schematic Diagram

EC board ➡

• EC (AQP/DQP (R.G.B) OUT) DIAGRAM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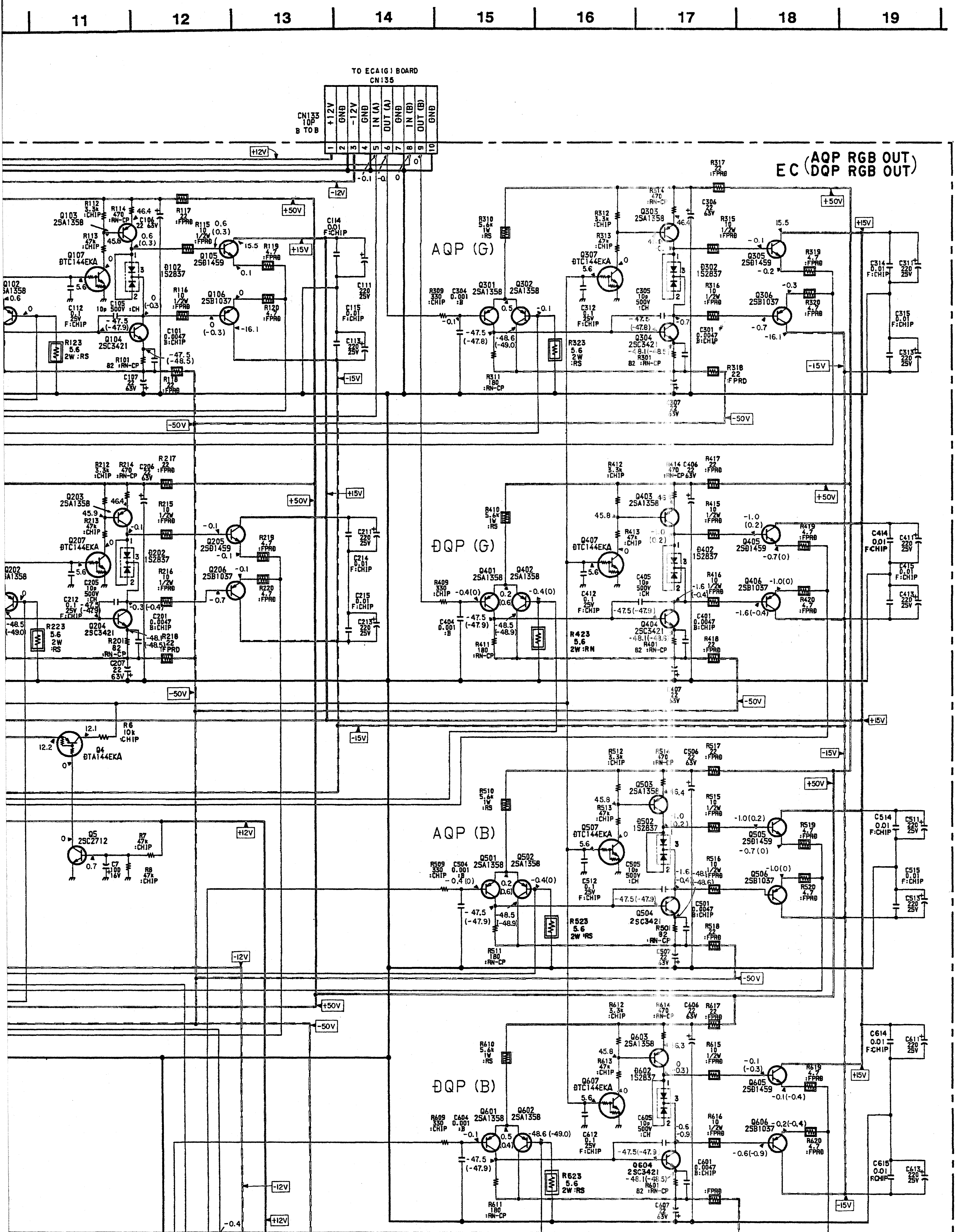
H
I
J
K
L
M
N
TO ECA(R)BOARD CN135
+12V
GND
-12V
GND
IN (A)
OUT (A)
GND
IN (B)
OUT (B)
GND
CN132 10P B TO B
CN351 64P B TO B
TO MR BOARD CN130
+50V A1
+50V C1
+15V A2
+15V C2
GND A3
GND C3
GND A4
GND C4
GND A5
GND C5
EC PROT A6
EC PROT C6
-15V A7
-15V C7
-50V A8
-50V C8
FAN+B A9
FAN+B C9
AQP. B (IN) A10
AQP. B (IN) C10
AQP. B (RET) A11
AQP. B (RET) C11
AQP. B (OUT) A12
AQP. B (OUT) C12
MG1/2H A13
MG1/2H C13
DQP. B (IN) A14
DQP. B (IN) C14
DQP. B (RET) A15
DQP. B (RET) C15
DQP. B (OUT) A16
DQP. B (OUT) C16
GND A17
GND C17
AQP. G (IN) A18
AQP. G (IN) C18
AQP. G (RET) A19
AQP. G (RET) C19
AQP. G (OUT) A20
AQP. G (OUT) C20
GND A21
GND C21
DQP. G (IN) A22
DQP. G (IN) C22
DQP. G (RET) A23
DQP. G (RET) C23
DQP. G (OUT) A24
DQP. G (OUT) C24
GND A25
GND C25
AQP. R (IN) A26
AQP. R (IN) C26
AQP. R (RET) A27
AQP. R (RET) C27
AQP. R (OUT) A28
AQP. R (OUT) C28
GND A29
GND C29
DQP. R (IN) A30
DQP. R (IN) C30
DQP. R (RET) A31
DQP. R (RET) C31
DQP. R (OUT) A32
DQP. R (OUT) C32
+50V
+15V
-15V
-50V
+12V
-12V
AQP (R)
DQP (R)
IC431 (2/2) μPC4558G2
IC431 (1/2) μPC4558G2
IC430 (1/2) μPC4558G2
IC430 (2/2) μPC4558G2
IC432 TL431CLP
IC433 LM350Z
TP430 V REF
TP431 TEMP
FAN ADJ
L430 4.7μH
C438 47 25V
Q430 2SB1566E
R444 0.22 2W :RS
C430 1000 25V
R445 470 1W :RS
D430 1S2837
Q431 2SB774
R430 12k :RN-CP
C431 0.1 :MPS
RV430 5k
R432 10k :RN-CP
Q432 DTC144EKA
D431 1S2837
R433 10k :CHIP
C432 47 50V
R434 4.7k :CHIP
C433 0.1 :MPS
R435 1k :CHIP
R436 22k :RN-CP
R438 10k :CHIP
D432 1S2837
R439 1k :CHIP
R446 1k
R440 33k :RN-CP
R441 82k :RN-CP
C434 10 50V
R442 100 :CHIP
R443 4.7k :RN-CP
C435 0.1 :MPS
C436 47 50V
C437 47 50V
D1 1S2837
IC1 NJM7812FA
L1 47μH
C1 100
C2 10
D2 1S2837
IC2 NJM7912FA
L2 47μH
C3 100
C4 10
R2 1k :CHIP
Q1 2SC2712
R1 47k :CHIP
R3 47k :CHIP
D3 RD5.1MB2
R4 56k :CHIP
Q3 2SC2712
C6 10
R5 47k :CHIP
L4 47μH
L3 47μH
R110 5.6k 1W :RS
R112 3.3k :CHIP
Q103 2SA1358
R114 470 :RN-CP
C106 22 63V
R117 22 :FPRD
R113 47k :CHIP
Q107 DTC144EKA
D102 1S2837
R116 10 1/2W :FPRD
R109 330 :CHIP
Q101 2SA1358
Q102 2SA1358
C112 0.1 25V F:CHIP
C105 10p 500V :CH
C101 0.0047 B:CHIP
C104 0.001 :B
R123 5.6 2W :RS
Q104 2SC3421
R101 82 :RN-CP
R111 180 :RN-CP
C107 22 63V
R118 22
R212 3.3k :CHIP
R214 470 :RN-CP
C206 22 63V
R217 22 :FPRD
R210 5.6k 1W :RS
Q203 2SA1358
R213 47k :CHIP
R215 10 1/2W :FPRD
Q207 DTC144EKA
D202 1S2837
R216 10 1/2W :FPRD
R209 330 :CHIP
C204 0.001 :B
Q201 2SA1358
Q202 2SA1358
C205 10p 500V :CH
C212 0.1 25V F:CHIP
C201 0.0047 B:CHIP
R223 5.6 2W :RS
Q204 2SC3421
R201 82 :RN-CP
R218 22 :FPRD
R211 180 :RN-CP
C207 22 63V
R6 10k :CHIP
Q4 DTA144EKA
Q5 2SC2712
R7 47k :CHIP
C7 100 16V
R8 47k :CHIP
CN134 10P B TO B
GND
OUT (B)
IN (B)
GND
TO ECA


11
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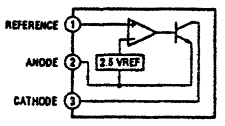
19
TO ECA(G) BOARD
CN135
CN133
10P
B TO B
+12V
GND
-12V
GND
IN (A)
OUT (A)
GND
IN (B)
OUT (B)
GND
EC (AQP RGB OUT)
(DQP RGB OUT)
AQP (G)
DQP (G)
AQP (B)
DQP (B)
+50V
-50V
+15V
-15V
+12V
-12V
Q103 2SA1358
Q107 DTC144EKA
Q102 2SB37
Q105 2SB1459
Q106 2SB1037
Q104 2SC3421
Q203 2SA1358
Q207 DTC144EKA
Q205 2SB1459
Q206 2SB1037
Q204 2SC3421
Q4 DTA144EKA
Q5 2SC2712
Q301 2SA1358
Q302 2SA1358
Q303 2SA1358
Q307 DTC144EKA
Q305 2SB1459
Q306 2SB1037
Q304 2SC3421
Q401 2SA1358
Q402 2SA1358
Q403 2SA1358
Q407 DTC144EKA
Q405 2SB1459
Q406 2SB1037
Q404 2SC3421
Q501 2SA1358
Q502 2SA1358
Q503 2SA1358
Q507 DTC144EKA
Q505 2SB1459
Q506 2SB1037
Q504 2SC3421
Q601 2SA1358
Q602 2SA1358
Q603 2SA1358
Q607 DTC144EKA
Q605 2SB1459
Q606 2SB1037
Q604 2SC3421
CN134
10P
B TO B
TO ECA(B) BOARD
CN135

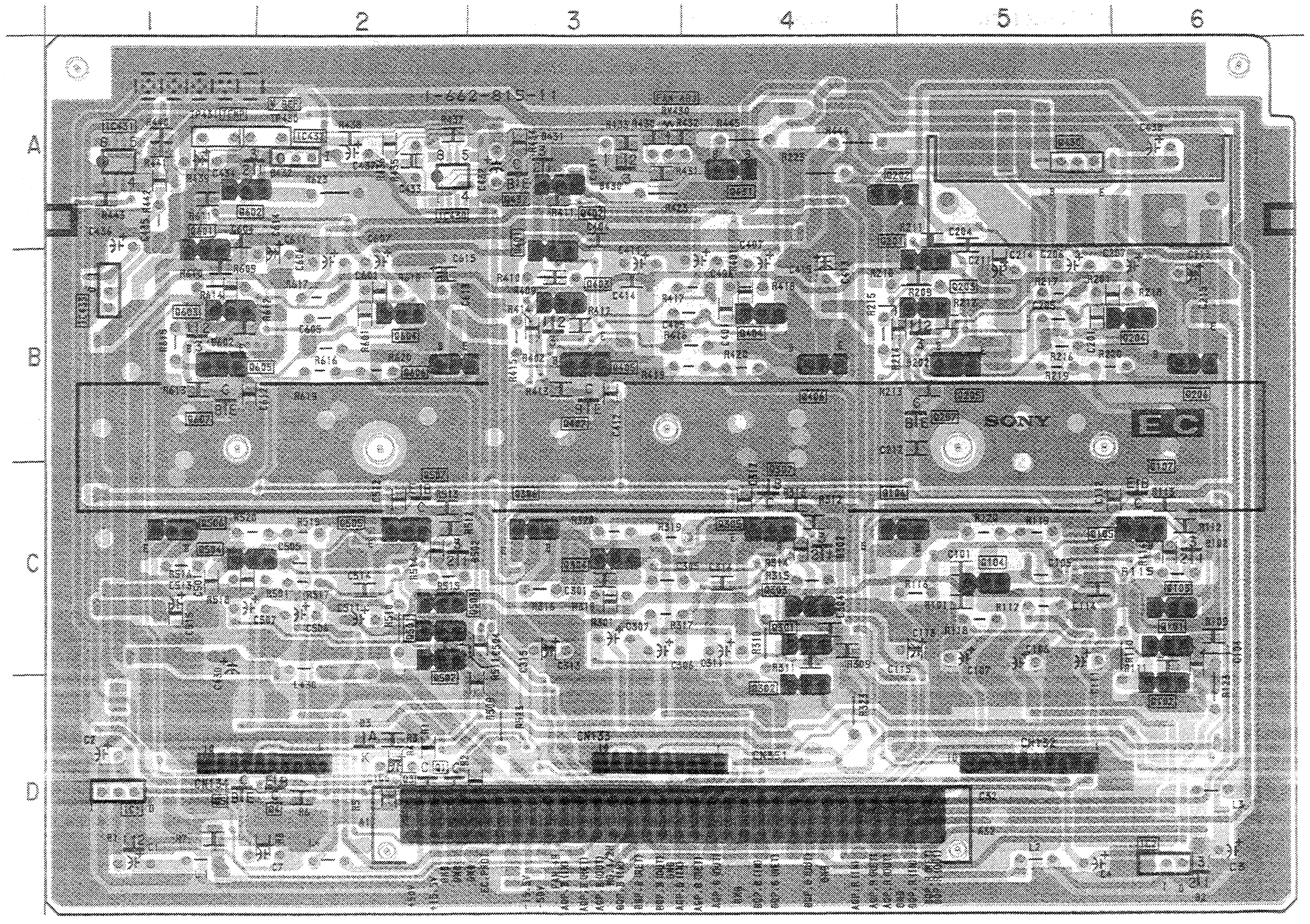
EC BOARD IC Block Diagr

TL431CLP (IC432)


REFERENCE ①
ANODE ②
CATHODE ③
2.5 VREF

EC (AQP/DQP (R.G.B) OUT) BOARD

— EC BOARD — <Conductor side>



EC BOARD
Semiconductors Location

DIODE	
D1	D-1
D2	D-6
D3	D-2
D102	C-6
D202	B-5
D302	C-4
D402	B-3
D430	A-3
D431	A-3
D432	A-1
D502	C-2
D602	B-1
IC	
IC1	D-1
IC2	D-6
IC430	A-2
IC431	A-1
IC432	A-2
IC433	B-1
TRANSISTOR	
Q1	D-2
Q3	D-2
Q4	D-2
Q5	D-1
Q101	C-6
Q102	D-6
Q103	C-6
Q104	C-5
Q105	C-6
Q106	C-5
Q107	C-6
Q201	B-5
Q202	A-3
Q203	B-5
Q204	B-6
Q205	B-5
Q206	B-6
Q207	B-5
Q301	C-4
Q302	D-4
Q303	C-4
Q304	C-3
Q305	C-4
Q306	C-3
Q307	C-4
Q401	A-3
Q402	A-3
Q403	B-3
Q404	B-4
Q405	B-3
Q406	B-4
Q407	B-3
Q430	A-5
Q431	A-3
Q432	A-3
Q501	C-2
Q502	C-2
Q503	C-2
Q504	C-1
Q505	C-2
Q506	C-1
Q507	C-2
Q601	A-1
Q602	A-1
Q603	B-1
Q604	B-2
Q605	B-1
Q606	B-2
Q607	B-1
VARIABLE RESISTOR	
RV430	A-3
TEST POINT	
TP430	A-2
TP431	A-1

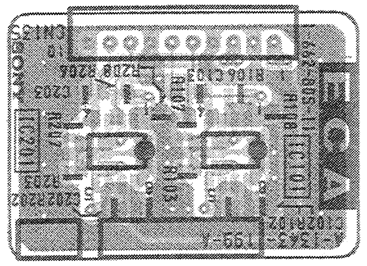
- ░ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

EC BOARD
Function of Semiconductor

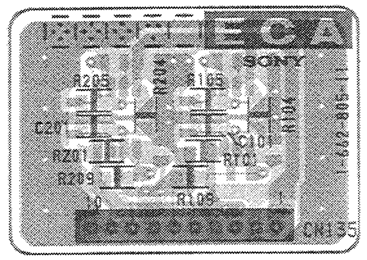
D1	1S2837	DISCHARGE
D2	1S2837	DISCHARGE
D3	RD5.1M-B2	LEVEL SHIFT
D102	1S2837	LEVEL SHIFT
D202	1S2837	LEVEL SHIFT
D302	1S2837	LEVEL SHIFT
D402	1S2837	LEVEL SHIFT
D430	1S2837	PROTECTOR
D431	1S2837	DISCHARGE
D432	1S2837	PROTECTOR
D502	1S2837	LEVEL SHIFT
D602	1S2837	LEVEL SHIFT
IC1	NJM7812FA	+12V REG
IC2	NJM7912FA	−12V REG
IC430	uPC4558GS	AMP
IC431	uPC4558GS	AMP
IC432	TL431CLP	REF
IC433	LM35DZ	THERM SENSOR
Q1	2SC2712-YG	EC PROTECTOR
Q3	2SC2712-YG	EC PROTECTOR
Q4	DTA144EKA	ON MUTE
Q5	2SC2712-YG	EC PROTECTOR
Q101	2SA1358-Y	R AMP
Q102	2SA1358-Y	R AMP
Q103	2SA1358-Y	R AMP
Q104	2SC3421-Y	R AMP
Q105	2SD1459	A QP (R) OUT
Q106	2SB1037-R	A QP (R) OUT
Q107	DTC144EKA	ON MUTE
Q201	2SA1358-Y	R AMP
Q202	2SA1358-Y	R AMP
Q203	2SA1358-Y	R AMP
Q204	2SC3421-Y	R AMP
Q205	2SD1459	DQP (R) OUT
Q206	2SB1037-R	DQP (R) OUT
Q207	DTC144EKA	ON MUTE
Q301	2SA1358-Y	G AMP
Q302	2SA1358-Y	G AMP
Q303	2SA1358-Y	G AMP
Q304	2SC3421-Y	G AMP
Q305	2SD1459	AQP (G) OUT
Q306	2SB1037-R	AQP (G) OUT
Q307	DTC144EKA	ON MUTE
Q401	2SA1358-Y	G AMP
Q402	2SA1358-Y	G AMP
Q403	2SA1358-Y	G AMP
Q404	2SC3421-Y	G AMP
Q405	2SD1459	DQP (G) OUT
Q406	2SB1037-R	DQP (G) OUT
Q407	DTC144EKA	ON MUTE
Q430	2SB1566E	FAN +B OUT
Q431	2SD774-T-34	BUFFER
Q432	DTC144EKA	ON RESET
Q501	2SA1358-Y	B AMP
Q502	2SA1358-Y	B AMP
Q503	2SA1358-Y	B AMP
Q504	2SC3421-Y	B AMP
Q505	2SD1459	AQP (B) OUT
Q506	2SB1037-R	AQP (B) OUT
Q507	DTC144EKA	ON MUTE
Q601	2SA1358-Y	B AMP
Q602	2SA1358-Y	B AMP
Q603	2SA1358-Y	B AMP
Q604	2SC3421-Y	B AMP
Q605	2SD1459	DQP (B) OUT
Q606	2SB1037-R	DQP (B) OUT
Q607	DTC144EKA	ON MUTE

ECA (R.G.B) (AQP/DQP AMP) BOARD

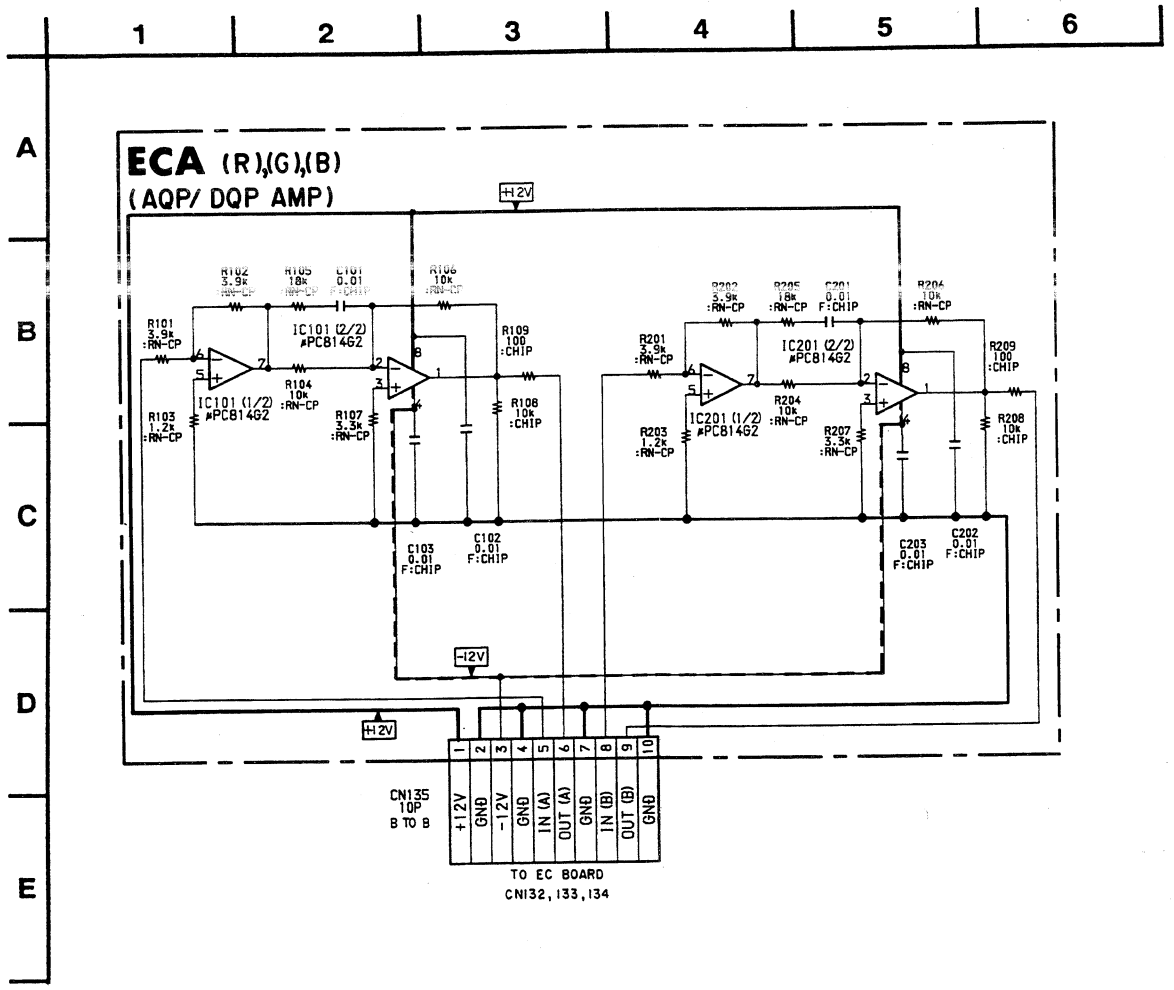
— ECA BOARD — <Conductor side>



— ECA BOARD — <Component side>



- ▒ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.


1
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6
A
B
C
D
E
ECA (R),(G),(B)
(AQP/ DQP AMP)
+12V
R101 3.9k :RN-CP
R102 3.9k :RN-CP
R105 18k :RN-CP
C101 0.01 F:CHIP
R106 10k :RN-CP
IC101 (2/2) μPC814G2
R109 100 :CHIP
R103 1.2k :RN-CP
IC101 (1/2) μPC814G2
R104 10k :RN-CP
R107 3.3k :RN-CP
R108 10k :CHIP
C103 0.01 F:CHIP
C102 0.01 F:CHIP
R201 3.9k :RN-CP
R202 3.9k :RN-CP
R205 18k :RN-CP
C201 0.01 F:CHIP
R206 10k :RN-CP
IC201 (2/2) μPC814G2
R209 100 :CHIP
R203 1.2k :RN-CP
IC201 (1/2) μPC814G2
R204 10k :RN-CP
R207 3.3k :RN-CP
R208 10k :CHIP
C203 0.01 F:CHIP
C202 0.01 F:CHIP
-12V
+12V
CN135 10P B TO B
1 +12V
2 GND
3 -12V
4 GND
5 IN (A)
6 OUT (A)
7 GND
8 IN (B)
9 OUT (B)
10 GND
TO EC BOARD
CN132, 133, 134

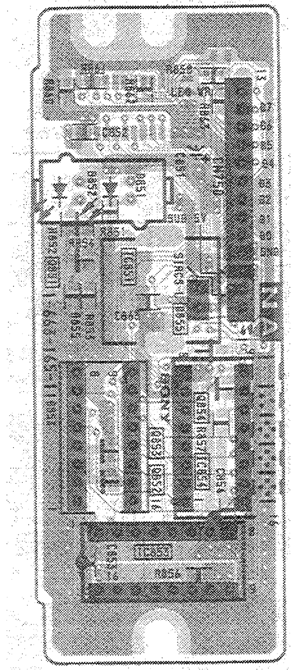
ECA BOARD

Function of Semiconductor

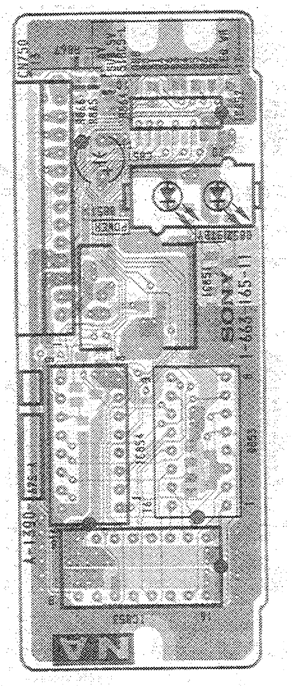
IC101	uPC814G2-T1	AMP
IC201	uPC814G2-T1	AMP

NA (INDEX COUNTER, SIRCS RECEIVER) BOARD

— NA BOARD —
<Conductor side>

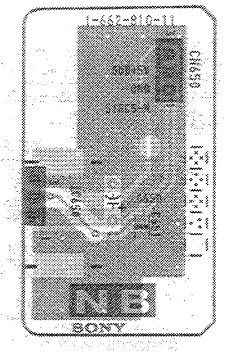


— NA BOARD —
<Component side>



NB (REMOTE SENSOR) BOARD

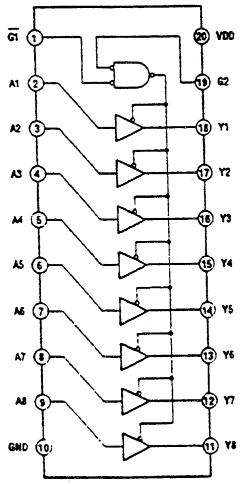
— NB BOARD — <Conductor side>



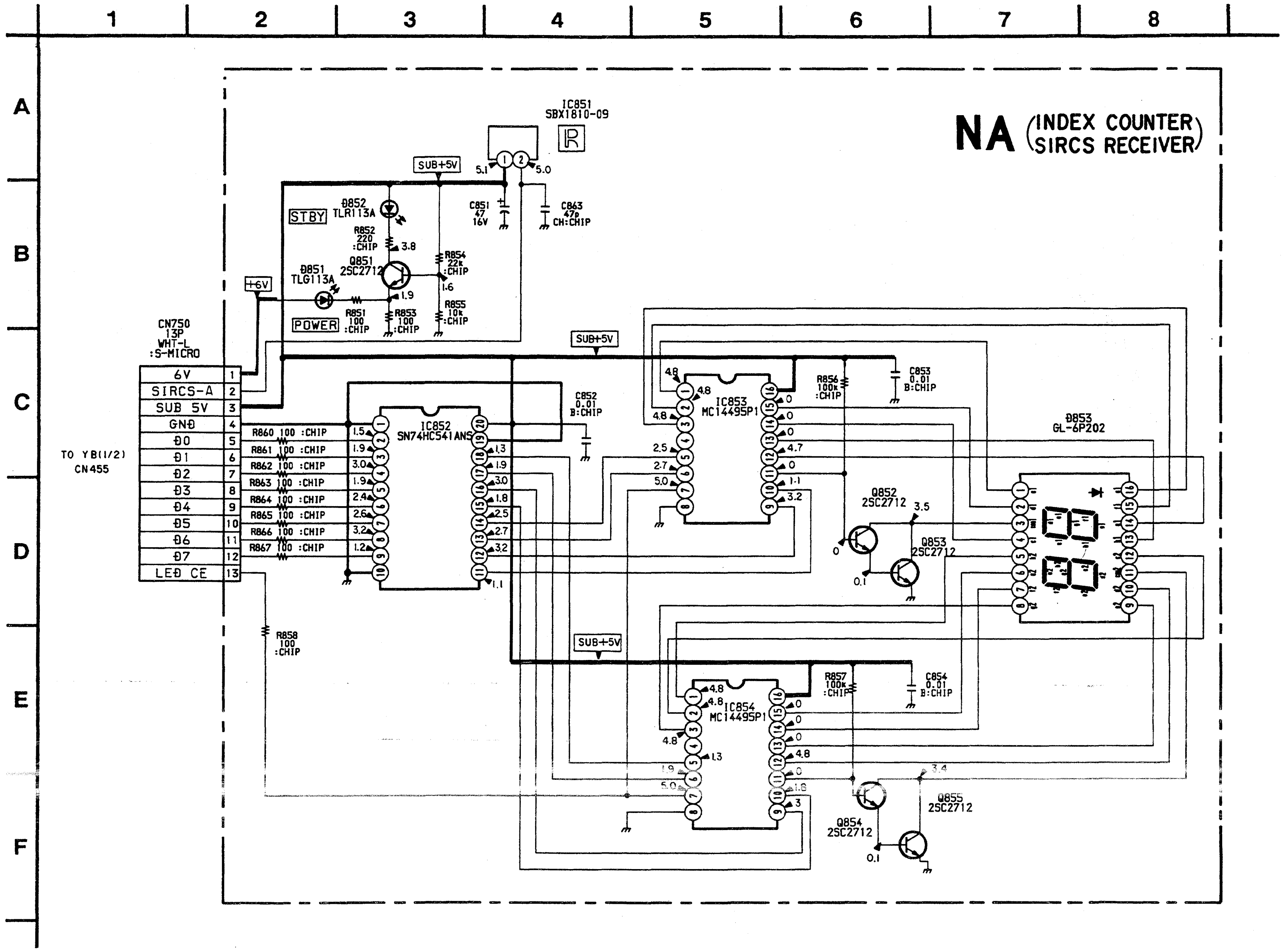
- ▓ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

NA BOARD IC Block Diagrams

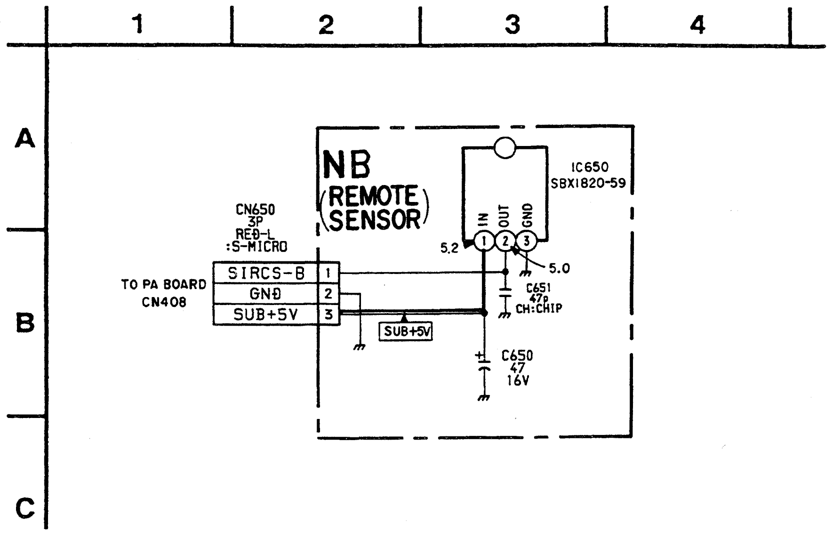
SN74HC541ANS (IC852)


G1 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
GND 10
20 VDD
19 G2
18 Y1
17 Y2
16 Y3
15 Y4
14 Y5
13 Y6
12 Y7
11 Y8

• NA (INDEX COUNTER, SIRCS RECEIVER) DIAGRAM


NA (INDEX COUNTER SIRCS RECEIVER)
IC851 SBX1810-09
SUB+5V
STBY
D852 TLR113A
R852 220 :CHIP
Q851 2SC2712
D851 TLG113A
POWER
R851 100 :CHIP
R853 100 :CHIP
R854 22k :CHIP
R855 10k :CHIP
C851 47 16V
C843 47p CH:CHIP
+6V
CN750 13P WHT-L :S-MICRO
6V
SIRCS-A
SUB 5V
GND
D0
D1
D2
D3
D4
D5
D6
D7
LED CE
TO YB(1/2) CN455
R860 100 :CHIP
R861 100 :CHIP
R862 100 :CHIP
R863 100 :CHIP
R864 100 :CHIP
R865 100 :CHIP
R866 100 :CHIP
R867 100 :CHIP
IC852 SN74HC541ANS
C852 0.01 B:CHIP
IC853 MC14495P1
R856 100k :CHIP
C853 0.01 B:CHIP
D853 GL-6P202
Q852 2SC2712
Q853 2SC2712
R858 100 :CHIP
IC854 MC14495P1
R857 100k :CHIP
C854 0.01 B:CHIP
Q854 2SC2712
Q855 2SC2712

• NB (REMOTE SENSOR) DIAGRAM


NB (REMOTE SENSOR)
IC650 SBX1820-59
IN
OUT
GND
CN650 3P RED-L :S-MICRO
TO PA BOARD CN408
SIRCS-B
GND
SUB+5V
SUB+5V
C651 47p CH:CHIP
C650 47 16V
5.2
5.0

NA BOARD

Function of Semiconductor

D851	TLG113A	POWER LED
D852	TLR113A	STANDBY LED
D853	GL-6P202	ERROR DISPLAY
IC851	SBX1810-09	SIRCS RECEIVER
IC852	SN74HC541ANS-E20	BUFFER
IC853	MC14495P1	LED DRIVER
IC854	MC14495P1	LED DRIVER
Q851	2SC2712-YG	LED DRIVER
Q852	2SC2712-YG	LED DRIVER
Q853	2SC2712-YG	LED DRIVER
Q854	2SC2712-YG	LED DRIVER
Q855	2SC2712-YG	LED DRIVER

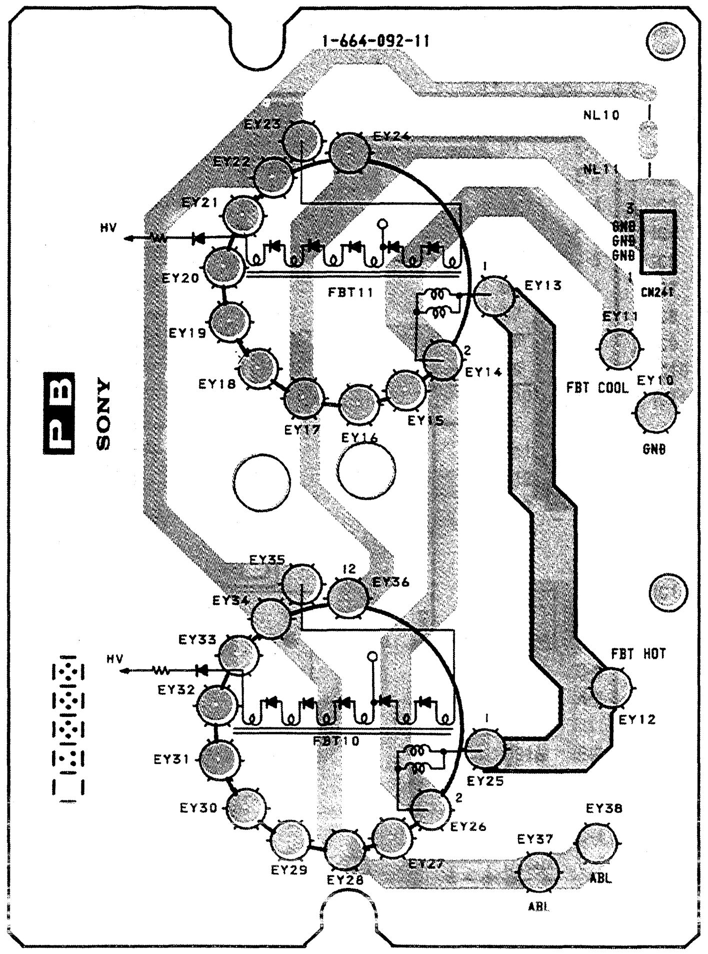
NB BOARD

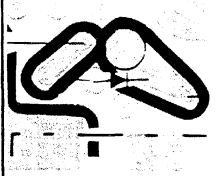
Function of Semiconductor

IC650	SBX1820-59	SIRCS RECEIVER

PB (F.B.T, HV BLOCK) BOARD

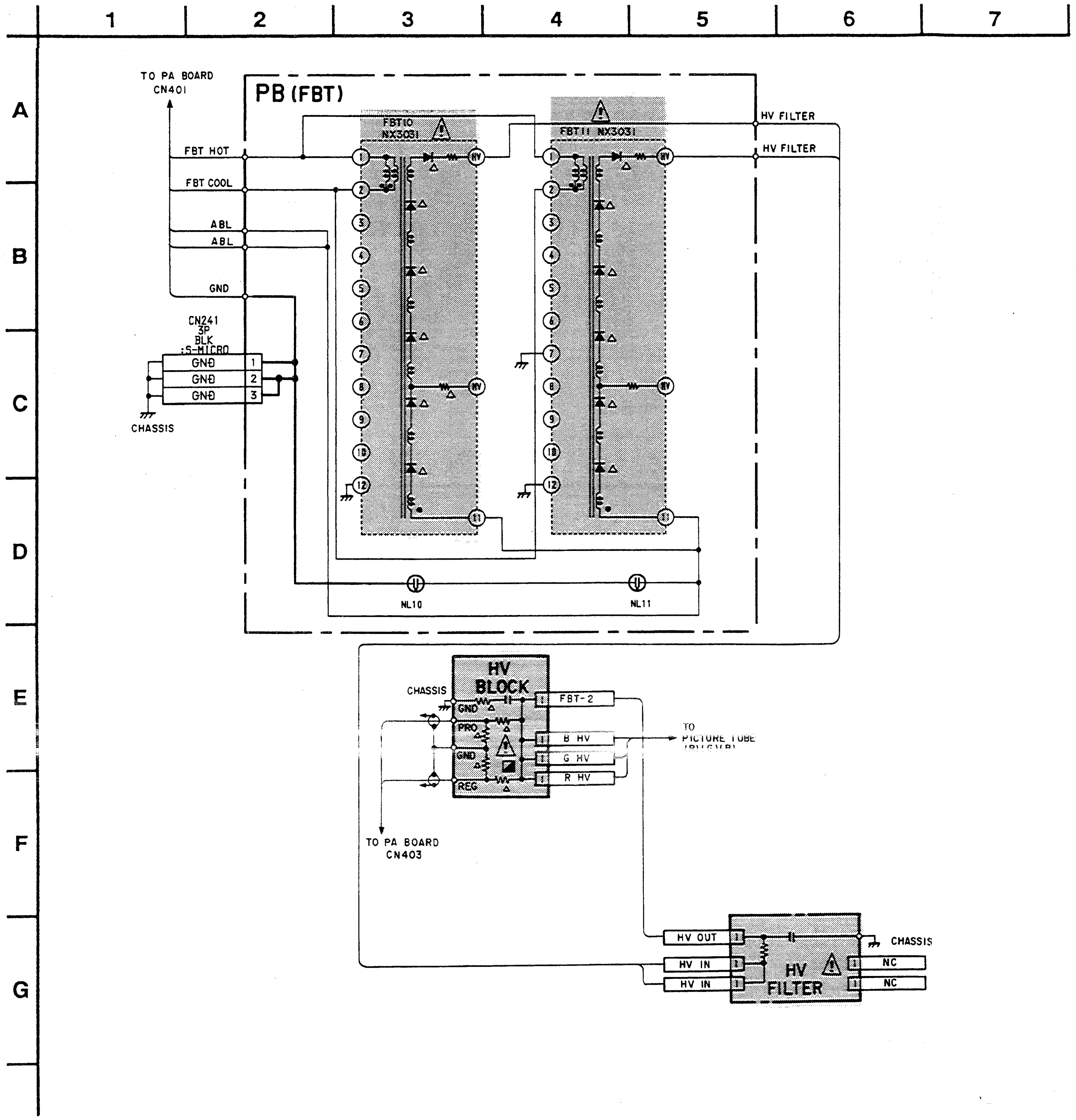
— PB BOARD — <Conductor side>


1-664-092-11
NL10
NL11
GND
CN241
HV
FBT11
FBT COOL
FBT HOT
FBT10
PB
SONY
EY10
EY11
EY12
EY13
EY14
EY15
EY16
EY17
EY18
EY19
EY20
EY21
EY22
EY23
EY24
EY25
EY26
EY27
EY28
EY29
EY30
EY31
EY32
EY33
EY34
EY35
EY36
EY37
EY38
ABL



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

• PB (F.B.T, HV BLOCK) DIAGRAM


1
2
3
4
5
6
7
A
B
C
D
E
F
G
TO PA BOARD
CN401
PB (FBT)
FBT HOT
FBT COOL
ABL
ABL
GND
CN241
3P
BLK
:S-MICRO
GND 1
GND 2
GND 3
CHASSIS
FBT10
NX3031
FBT11 NX3031
HV
HV FILTER
HV FILTER
NL10
NL11
HV BLOCK
CHASSIS
GND
PRO
GND
REG
FBT-2
B HV
G HV
R HV
TO
PICTURE TUBE
(R)(G)(B)
TO PA BOARD
CN403
HV OUT
HV IN
HV IN
HV FILTER
CHASSIS
NC
NC

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Schematic Diagram

← NA NB board

PA BOARD
Semiconductors Location

DIODE	
D1	E-3
D2	E-3
D3	D-4
D4	F-6
D5	C-5
D6	E-4
D7	E-5
D8	E-4
D9	D-5
D10	E-7
D11	F-5
D12	D-5
D13	E-7
D14	E-7
D15	E-5
D16	E-7
D17	A-5
D18	D-5
D19	C-5
D20	A-5
D21	E-6
D22	D-8
D24	B-7
D25	C-4
D26	C-4
D27	C-3
D28	C-3
D29	C-3
D30	C-4
D31	B-1
D32	A-1
D33	B-10
D34	B-4
D35	C-8
D36	A-4
D37	B-3
D38	A-4
D39	C-8
D40	D-5
D41	C-9
D42	C-5
D43	D-4
D44	C-6
D45	C-6
D46	B-5
D51	B-5
D52	B-5
D53	B-5
D54	D-6
D55	E-6
D56	D-5
D57	C-5
D58	C-5

IC	
IC1	E-3
IC2	F-8
IC3	E-6
IC4	F-8
IC5	D-4
IC7	E-4
IC8	F-4
IC9	F-9
IC10	D-5
IC11	E-5
IC12	F-9
IC13	A-4
IC14	F-6
IC15	D-9
IC16	A-5
IC18	B-5

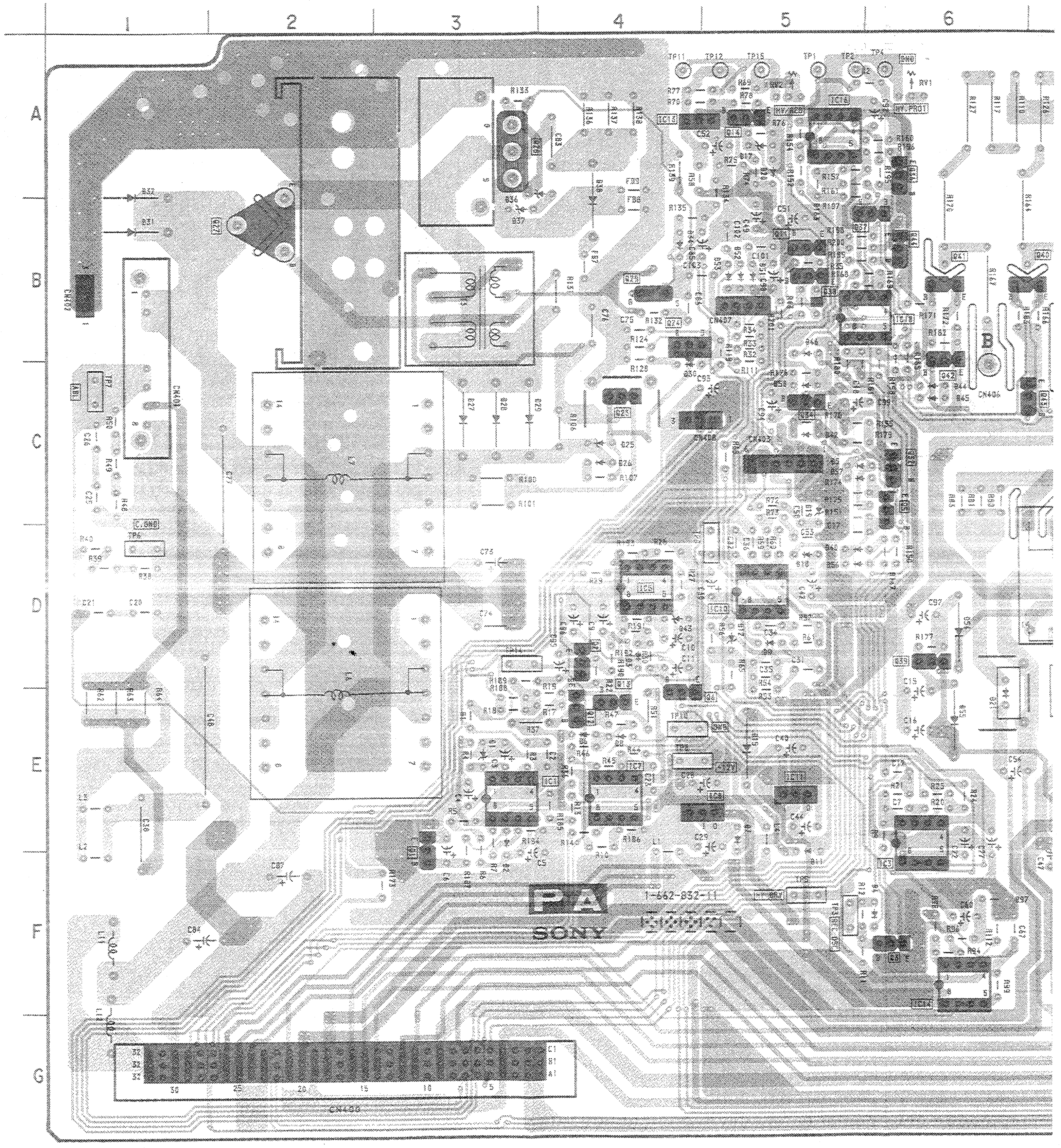
TRANSISTOR	
Q1	F-3
Q2	D-4
Q3	F-6
Q4	F-8
Q5	C-6
Q6	E-4
Q7	G-8
Q11	B-5
Q12	E-4
Q13	E-4
Q14	A-5
Q15	E-9
Q16	E-7
Q17	D-8
Q18	F-7
Q19	E-9
Q20	F-7
Q21	D-9
Q22	C-10
Q23	C-4
Q24	B-4
Q25	D-9
Q26	C-8
Q27	B-2
Q28	A-3
Q29	B-4
Q30	C-8
Q31	C-8
Q32	C-6
Q33	B-7
Q34	C-5
Q35	C-7
Q36	A-6
Q37	B-6
Q38	B-5
Q39	D-6
Q40	B-6
Q41	B-6
Q42	B-6
Q43	C-6
Q44	B-6

VARIABLE RESISTOR	
RV1	A-6
RV2	A-5

TEST POINT	
TP1	A-5
TP2	A-5
TP3	F-5
TP4	A-6
TP5	F-5
TP6	D-1
TP7	C-1
TP8	E-4
TP9	D-5
TP10	E-4
TP11	A-4
TP12	A-5
TP13	E-9
TP14	D-3
TP15	A-5

PA (HIGH VOLTAGE GENERATOR) BOARD

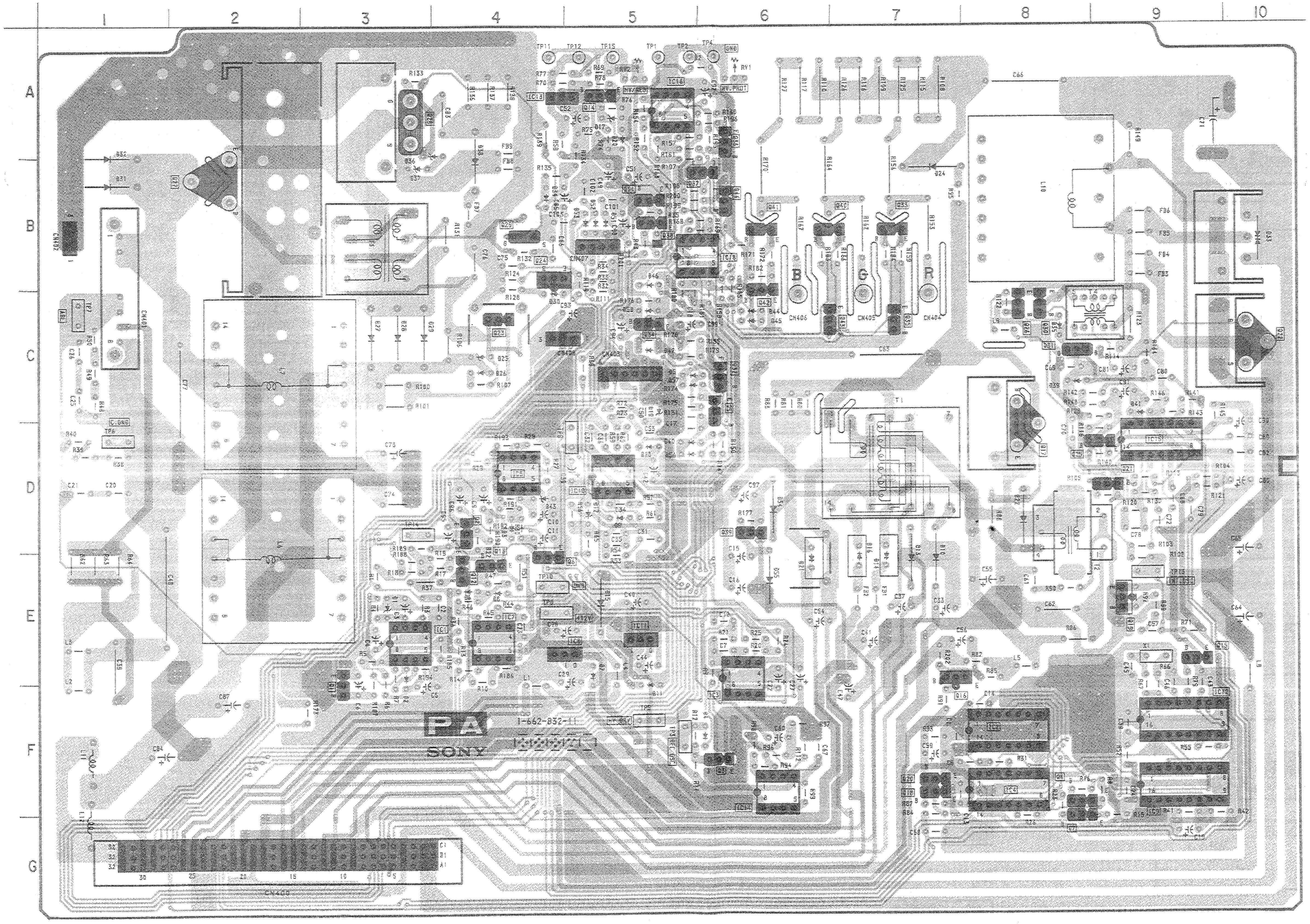
— PA BOARD — <Conductor side>



PA (HIGH VOLTAGE GENERATOR) BOARD

— PA BOARD — <Conductor side>

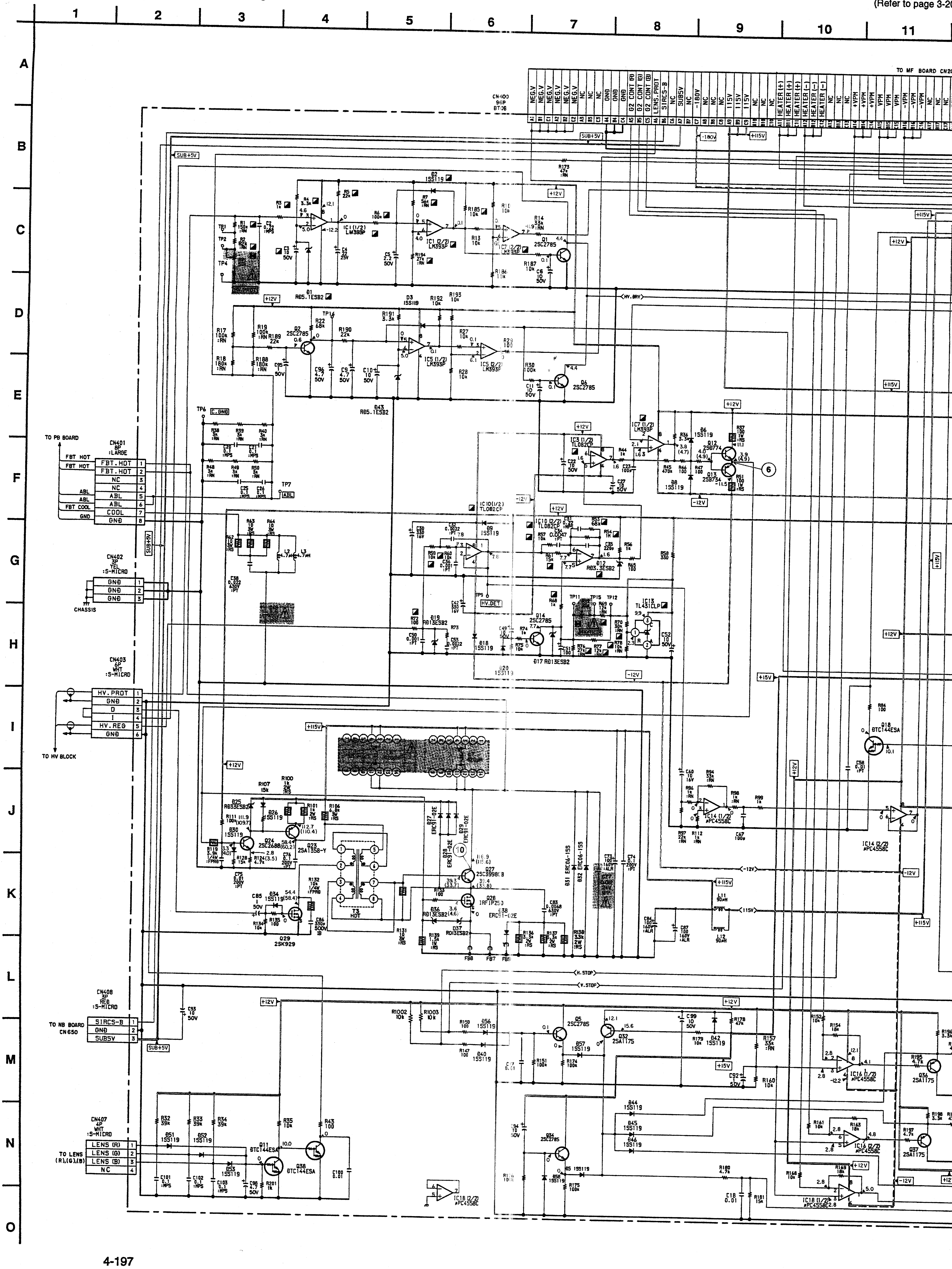
	Q40	B-6
IC	Q41	B-6
	Q42	B-6
E-3	Q43	C-6
F-8		
E-6	Q44	B-6
F-8	VARIABLE RESISTOR	
D-4		
E-4		
F-4		
F-9	RV1	A-6
D-5	RV2	A-5
E-5	TEST POINT	
F-9		
A-4	TP1	A-5
F-6	TP2	A-5
D-9	TP3	F-5
A-5	TP4	A-6
B-5	TP5	F-5
	TP6	D-1
NSISTOR	TP7	C-1
	TP8	E-4
F-3	TP9	D-5
D-4	TP10	E-4
F-6		
F-8	TP11	A-4
C-6	TP12	A-5
E-4	TP13	E-9
G-8	TP14	D-3
B-5	TP15	A-5
E-4		
E-4		
A-5		
E-9		
E-7		
D-8		
F-7		
E-9		
F-7		
D-9		
C-10		
C-4		
B-4		
D-9		
C-8		
B-2		
A-3		
B:4		
C-8		
C-8		
C-6		
B-7		
C-5		
C-7		
A-6		
B-6		
B-5		
D-6		


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
PA
SONY
1-662-832-11
B
G
R
CN404
CN405
CN406
CN401
CN402
CN403
CN400
L10
T1
HV.REG
HV.PROT
C.GND
TP1
TP2
TP3
TP4
TP6
TP7
TP11
TP12
TP15
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15

- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

- **PA (HIGH VOLTAGE GENERATOR) DIAGRAM**
- Refer to page 4-201 for Waveforms
- Refer to page 4-202 for Function of Semiconductor
- Refer to page 4-201 for IC Block Diagram

- The components
diagram have bee
order to satisfy reg
Should replacemen
originally used.
(Refer to page 3-2

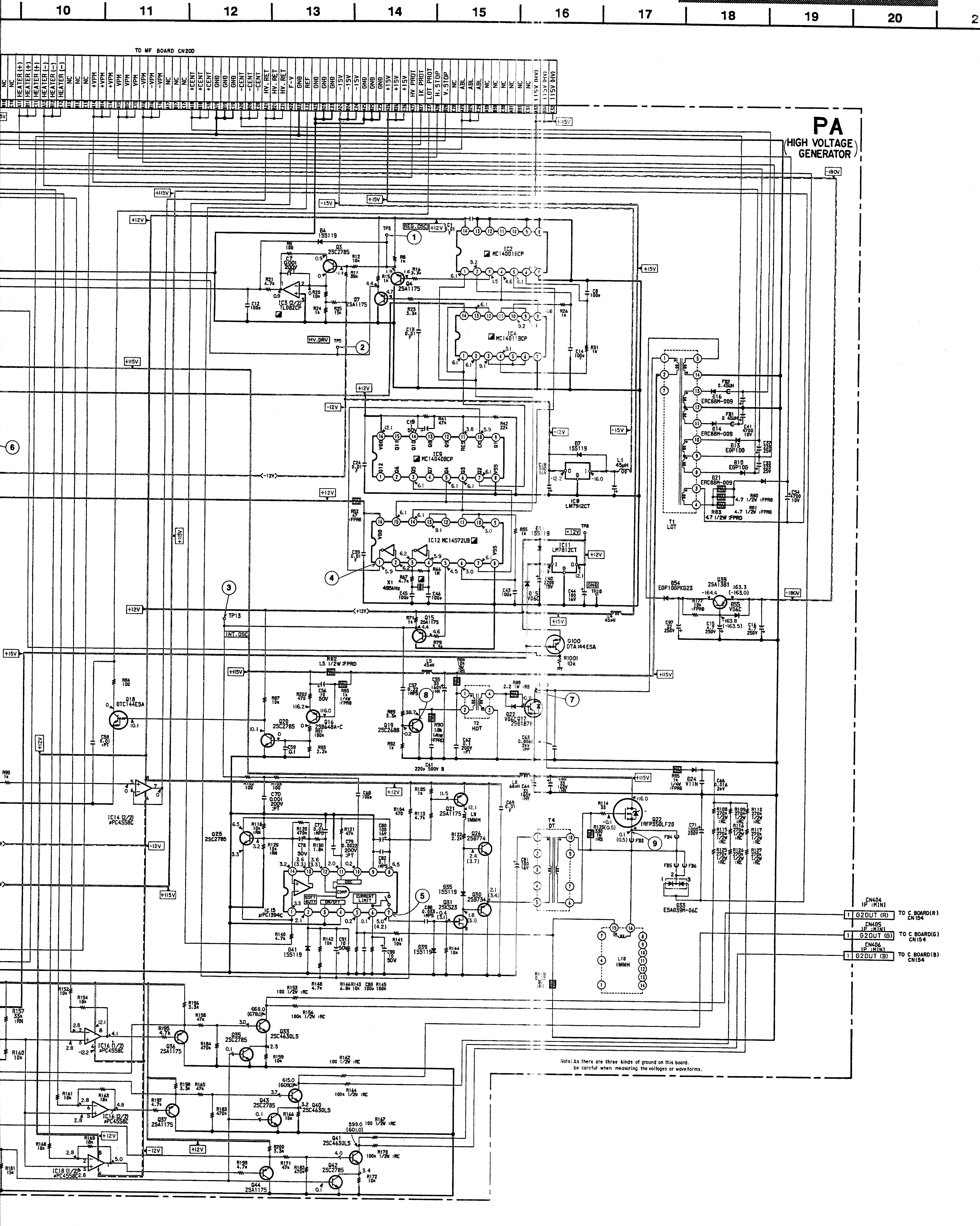


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
TO MF BOARD CN20
CN400 96P BT06
NEG.V
NC
GND
G2 CONT (R)
G2 CONT (G)
G2 CONT (B)
LENS.PROT
SIRCS-B
SUB5V
-180V
115V
HEATER (+)
HEATER (-)
+VPM
VPM
-VPM
SUB+5V
+12V
+115V
-12V
-180V
TO PB BOARD
CN401 8P :LARGE
FBT HOT
FBT.HOT
NC
ABL
FBT COOL
COOL
GND
CN402 3P YEL :S-MICRO
CHASSIS
CN403 6P WHT :S-MICRO
HV.PROT
HV.REG
TO HV BLOCK
CN408 3P RED :S-MICRO
TO NB BOARD CN650
SIRCS-B
SUB5V
CN407 4P WHT :S-MICRO
TO LENS (R),(G),(B)
LENS (R)
LENS (G)
LENS (B)
IC1 (1/2) LM393P
IC1 (2/2) LM393P
IC7 (2/2) LM393P
IC5 (1/2) LM393P
IC5 (2/2) LM393F
IC7 (1/2) LM393P
IC3 (1/2) TL082CP
IC10 (1/2) TL082CP
IC10 (2/2) TL082CP
IC13 TL431CLP
IC14 (1/2) μPC4558C
IC14 (2/2) μPC4558C
IC16 (1/2) μPC4558C
IC16 (2/2) μPC4558C
IC18 (1/2) μPC4558C
IC18 (2/2) μPC4558C
Q1 2SC2785
Q2 2SC2785
Q6 2SC2785
Q12 2SB774
Q13 2SB734
Q14 2SC2785
Q18 DTC144ESA
Q23 2SA1358-Y
Q24 2SC2688
Q27 2SC3998CB
Q28 IRF1P250
Q29 2SK929
Q5 2SC2785
Q32 2SA1175
Q34 2SC2785
Q36 2SA1175
Q37 2SA1175
Q11 DTC144ESA
Q38 DTC144ESA
T3 HDT
L11 90μH
L12 90μH
TP1
TP2
TP4
TP5
TP6
TP7
TP11
TP12
TP14
TP15
C.GND
ABL
HV.DET
HV.BRV
H.STOP
V.STOP
115V
FB8
FB7
FB9
6
10

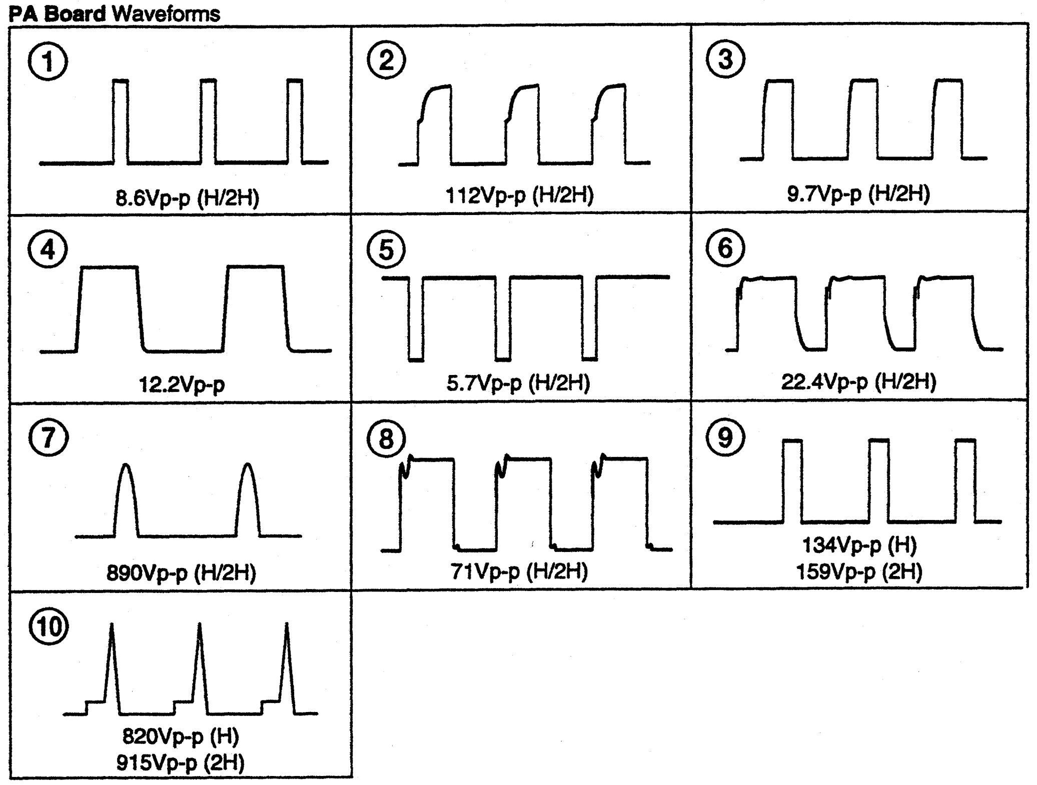
- The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used. (Refer to page 3-20.)

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

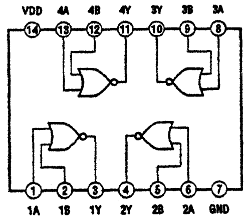

10
11
12
13
14
15
16
17
18
19
20
TO MF BOARD CN200
NC
HEATER (+)
HEATER (-)
+VPH
VPH
-VPH
+CENT
GND
-CENT
HV.RET
F-V
REF
-15V
+15V
HV PROT
IK PROT
LOT PROT
H.STOP
V.STOP
ABL
115V (HV)
PA
(HIGH VOLTAGE GENERATOR)
REG.OSC
HV.DRV
INT.OSC
IC2 MC14001BCP
IC3 (2/2) TL082CP
IC4 MC14011BCP
IC9 MC14040BCP
IC12 MC14572UB
IC8 LM7912CT
IC11 LM7812CT
IC14 (2/2) μPC4558C
IC15 μPC1394C
IC16 (1/2) μPC4558C
IC16 (2/2) μPC4558C
IC18 (1/2) μPC4558C
X1 495kHz
T1 LOT
T2 HDT
T4 DT
L10 1MMH
Q3 2SC2785
Q4 2SA1175
Q7 2SA1175
Q15 2SA1175
Q16 2SB648A-C
Q18 DTC144ESA
Q19 2SC2688
Q20 2SC2785
Q22 IRFP350LF20
Q25 2SC2785
Q26 2SB774
Q30 2SB734
Q31 2SK523
Q33 2SC4630LS
Q35 2SC2785
Q36 2SA1175
Q37 2SA1175
Q39 2SA1381
Q40 2SC4630LS
Q41 2SC4630LS
Q42 2SC2785
Q43 2SC2785
Q44 2SA1175
Q100 DTA144ESA
D13 EGP10G
D14 ERC88M-009
D16 ERC88M-009
D21 ERC88M-009
D33 ESA03M-06C
D54 EGP10GPKG23
D55 V06C
D24 V11N
SOFT DUTY
ON/OFF
COMP
OSC
CURRENT LIMIT
CN404 1P :MINI
G2OUT (R)
TO C BOARD(R) CN154
CN405 1P :MINI
G2OUT (G)
TO C BOARD(G) CN154
CN406 1P :MINI
G2OUT (B)
TO C BOARD(B) CN154
+115V
+15V
-15V
+12V
-12V
-180V
Note: As there are three kinds of ground on this board. be careful when measuring the voltages or waveforms.

PA Board Waveforms

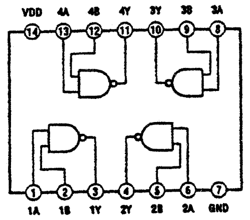


PA BOARD IC Block Diagrams

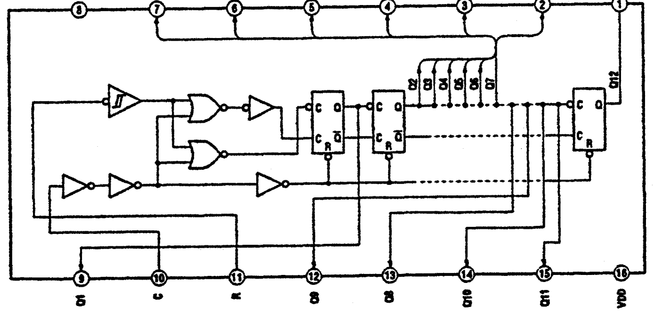
MC14001BCP (IC2)


VDD
4A
4B
4Y
3Y
3B
3A
1A
1B
1Y
2Y
2B
2A
GND

MC14011BCP (IC4)


VDD
4A
4B
4Y
3Y
3B
3A
1A
1B
1Y
2Y
2B
2A
GND

MC14040BCP (IC9)

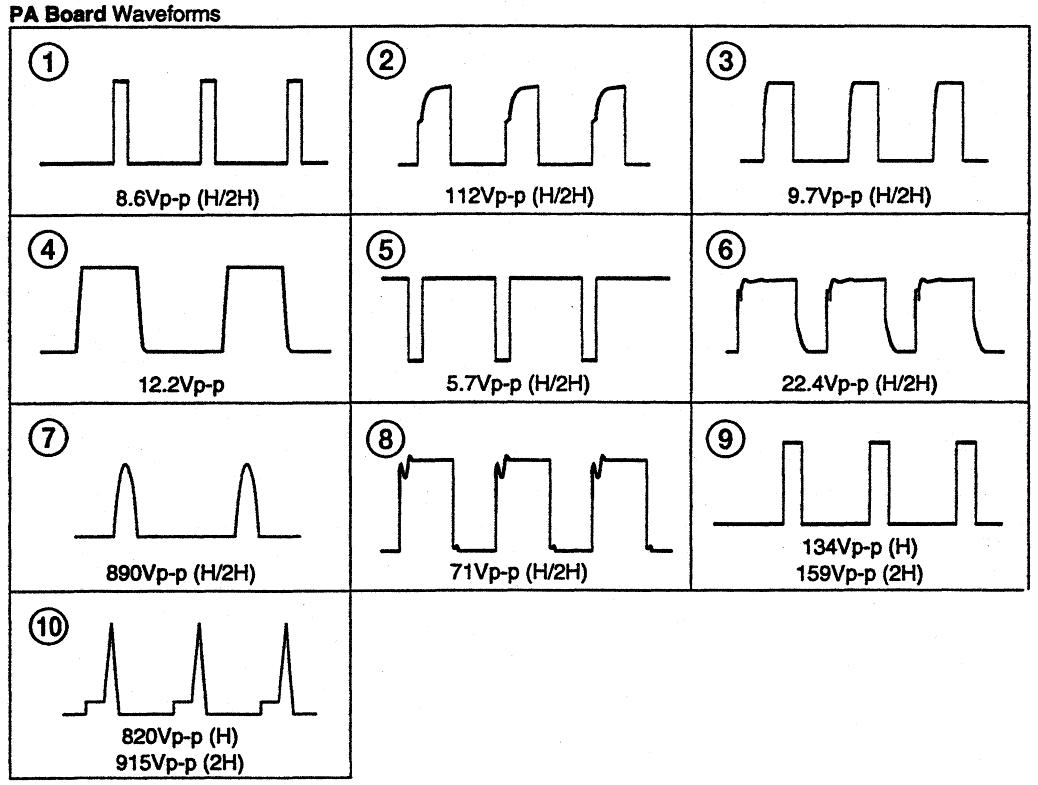

VSS
Q2
Q3
Q4
Q7
Q5
Q6
Q12
Q1
C
R
Q9
Q8
Q10
Q11
VDD

PA BOARD

Function of Semico

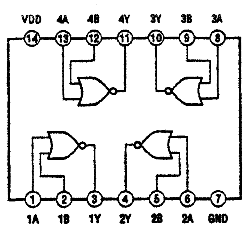
D1	RD5.1
D2	1SS11
D3	1SS11
D4	1SS11
D5	1SS11
D6	1SS11
D7	1SS11
D8	1SS11
D9	1SS11
D10	EGP10
D11	1SS11
D12	RD3.3E
D13	EGP10
D14	ERC88
D15	V06C-T
D16	ERC88
D17	RD13E
D18	1SS119
D19	RD13E
D20	1SS119
D21	ERC88
D22	V06C-T
D24	V11N-5
D25	RD33ES
D26	1SS119
D27	ERC91-
D28	ERC91-
D29	ERC91-
D30	1SS119-
D31	ERC06-
D32	ERC06-
D33	ESAD39
D34	1SS11
D35	1SS119-
D36	RD13ES-
D37	RD13ES-
D38	ERC91-0
D39	1SS119-
D40	1SS119-
D41	1SS119-
D42	1SS119-
D43	RD5.1ES
D44	1SS119-
D45	1SS119-
D46	1SS119-
D51	1SS119-
D52	1SS119-
D53	1SS119-
D54	EGP10GP
D55	V06C-T52
D56	1SS119-2
D57	1SS119-2
D58	1SS119-2
IC1	LM393P
IC2	MC14001

PA Board Waveforms

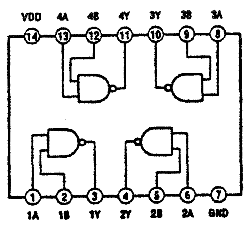


PA BOARD IC Block Diagrams

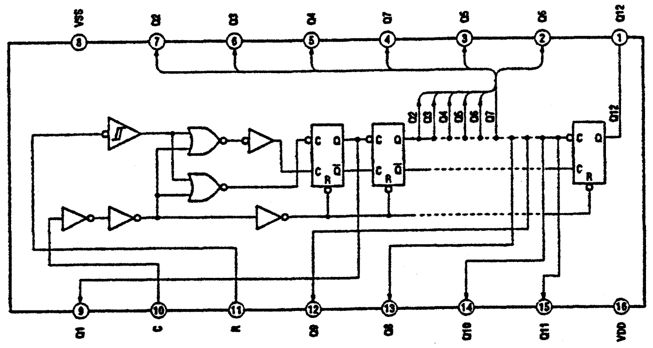
MC14001BCP (IC2)



MC14011BCP (IC4)



MC14040BCP (IC9)



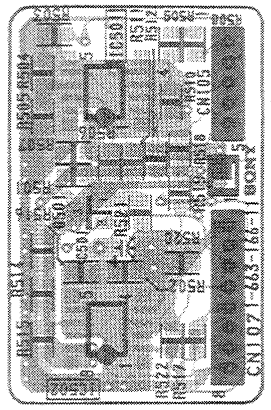
PA BOARD

Function of Semiconductor

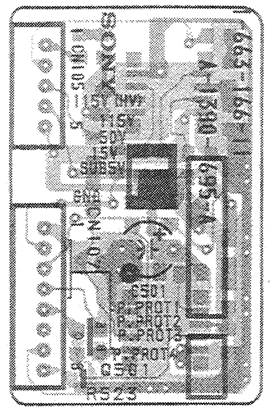
D1	RD5.1ES-B2	HV PROTECTOR	IC3	TL082CP	HV. DET. BUFFER, HV LIMIT
D2	1SS119-25TD	HV PROT HOLD	IC4	MC14011BCP	HV DRIVE
D3	1SS119-25TD	IK PROT HOLD	IC5	LM393P	IK. PROT. COMP
D4	1SS119-25TD	HV LIMITTER	IC7	LM393P	REG. OSC. COMP, HV. PROT. BUFFER
D5	1SS119-25TD	G2 DOWN	IC8	LM7912CT	–12V. REG
D6	1SS119-25TD	PROTECTOR	IC9	MC14040BCP	OSC-DEV-1
D7	1SS119-25TD	–12V PROTECTOR	IC10	TL082CP	HV. REG. DET, HV. REG. CONT
D8	1SS119-25TD	PROTECTOR	IC11	LM7812CT	+12V. REG
D9	1SS119-25TD	+12V HOLD	IC12	MC14572UBCP	OSC-DEV-1
D10	EGP10GPKG23	+PIN MOD RECT-1	IC13	TL431CLP	HV. REG. REF
D11	1SS119-25TD	+12V PROTECTOR	IC14	uPC4558C	HV. MOD. CONT, HV. MOD. BUFFER
D12	RD3.3ES-B2	REG PROTECTOR	IC15	uPC1394C	PIN. MOD. REG, CONT
D13	EGP10GPKG23	–PIN MOD RECT	IC16	uPC4558C	G2. CONT. R, G2. CONT. G
D14	ERC88M-009	+ CENT RECT	IC18	uPC4558C	G2. CONT. B
D15	V06C-T52	+15V RECT			
D16	ERC88M-009	– CENT RECT	Q1	2SC2785TP-HFE	HV. STOP. SW-1
D17	RD13ES-T1B2	REG PROTECTOR	Q2	2SC2785TP-HFE	IK. DETECTOR
D18	1SS119-25TD	–12V HOLD	Q3	2SC2785TP-HFE	BUFFER
D19	RD13ES-B2	HV REG PROTECTOR	Q4	2SA1175TP-HFE	REG. OSC. BUFFER
D20	1SS119-25TD	PROTECTOR	Q5	2SC2785TP-HFE	HV. STOP. DET
D21	ERC88M-009	HEATER RECT	Q6	2SC2785TP-HFE	HV. STOP. SW-2
D22	V06C-T52	SPEED UP	Q7	2SA1175TP-HFE	HV. DRV. BUFFER
D24	V11N-52	G2 RECT	Q11	DTC144ESA	LENS. PROT. SW-1
D25	RD33ESB2	CLAMP	Q12	2SD774-T-34	REG. PULSE. BUFFER-1
D26	1SS119-25TD	BIAS	Q13	2SB734-T-34	REG. PULSE. BUFFER-2
D27	ERC91-02E	REG SW-1	Q14	2SC2785TP-HFE	POWER ON PROTECTOR
D28	ERC91-02E	REG SW-2	Q15	2SA1175TP-HFE	INT. OSC. BUFFER
D29	ERC91-02E	REG SW-3	Q16	2SB648A-C	LOT. PROT. DETECTOR
D30	1SS119-25TD	PROTECTOR	Q17	2SD1878-CA	LOT. CONVERTER
D31	ERC06-15SA	DUMPER-1	Q18	DTC144ESA	LOT. PROT. SW
D32	ERC06-15SA	DUMPER-2	Q19	2SC2688-LK	LOT. DRIVE
D33	ESAD39M-06C	N.POW RECT	Q20	2SC2785TP-HFE	LOT. PROT. BUFFER
D34	1SS119-25TD	SPEED UP	Q21	2SA1175TP-HFE	POWER OFF PROTECTOR
D35	1SS119-25TD	BIAS	Q22	IRFP350LF20	PIN MOD REG
D36	RD13ES-B2	PROTECTOR	Q23	2SA1358-Y	CONV. DRV. CONT-2
D37	RD13ES-B2	PROTECTOR	Q24	2SC2688-LK	CONV. DRV. CONT-1
D38	ERC91-02E	CLAMP	Q25	2SC2785TP-HFE	POWER ON BIAS
D39	1SS119-25TD	CLAMP	Q26	2SD774-T-34	N POW REG DRV-1
D40	1SS119-25TD	H STOP	Q27	2SC3998-CB	HV CONVERTER
D41	1SS119-25TD	PROTECTOR	Q28	IRFIP250	HV REGULATOR
D42	1SS119-25TD	+15V HOLD	Q29	2SK929	HV CONV DRIVE
D43	RD5.1ES-B2	IK PROTECTOR	Q30	2SB734-T-34	N POW REG DRV-2
D44	1SS119-25TD	G2 DOWN R	Q31	2SK523TP-M1	N POW REG PRE DRV
D45	1SS119-25TD	G2 DOWN G	Q32	2SA1175TP-HFE	OFF SPOT SW
D46	1SS119-25TD	G2 DOWN B	Q33	2SC4630LS	G2 CONT. R
D51	1SS119-25TD	LENS PROT R	Q34	2SC2785TP-HFE	ON SPOT SW
D52	1SS119-25TD	LENS PROT G	Q35	2SC2785TP-HFE	G2 DOWN. R
D53	1SS119-25TD	LENS PROT B	Q36	2SA1175TP-HFE	G2 CONT BUFF. R
D54	EGP10GPKG23	–B RECT	Q37	2SA1175TP-HFE	G2 CONT BUFF. G
D55	V06C-T52	PROTECTOR	Q38	DTC144ESA	LENS PROT SW-2
D56	1SS119-25TD	V STOP	Q39	2SA1381-E	–B LIPPLE FILTER
D57	1SS119-25TD	G2 DOWN	Q40	2SC4630LS	G2 CONT. G
D58	1SS119-25TD	CLAMP	Q41	2SC4630LS	G2 CONT. B
			Q42	2SC2785TP-HFE	G2 DOWN. B
IC1	LM393P	HV. PROT. COMP	Q43	2SC2785TP-HFE	G2 DOWN. G
IC2	MC14001BCP	REG. OSC	Q44	2SA1175TP-HFE	G2 CONT BUFF. B

L (PROTECT CONTROL) BOARD

— L BOARD — <Conductor side>


IC501
CN105
R520
R521
D501
CN107
1-663-166-11
R522
R517
R515
R514
C501

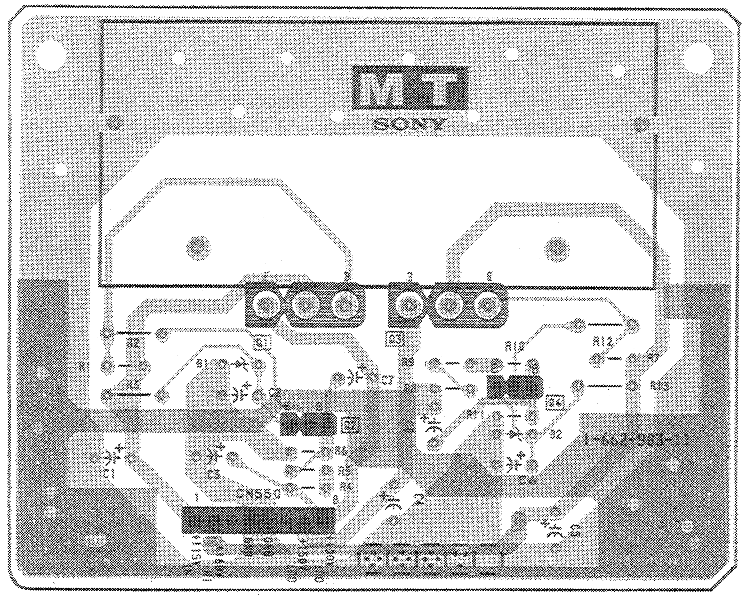
— L BOARD — <Component side>


SONY
115V (HV)
115V
50V
15V
SUB5V
GND
P.PROT1
P.PROT2
P.PROT3
P.PROT4
Q501
R523
1-663-166-11

- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

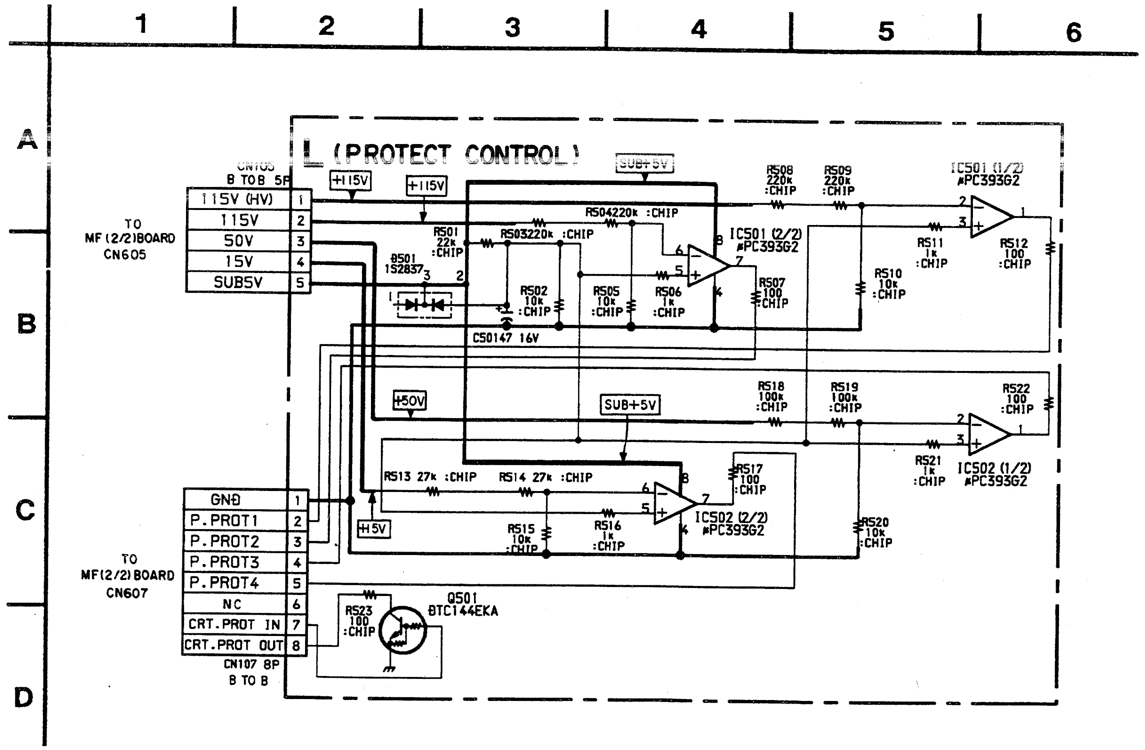
MT (+105/+150V REGULATOR) BOARD

— MT BOARD — <Conductor side>


MT
SONY
R1
R2
R3
R4
R5
R6
R7
R9
R10
R11
R12
R13
Q1
Q2
Q3
Q4
C1
C2
C3
C5
C6
C7
CN550
1-662-983-11

- ▨: Pattern from the side which enables seeing.
- ■: Pattern of the rear side.

• L (PROTECT CONTROL) DIAGRAM

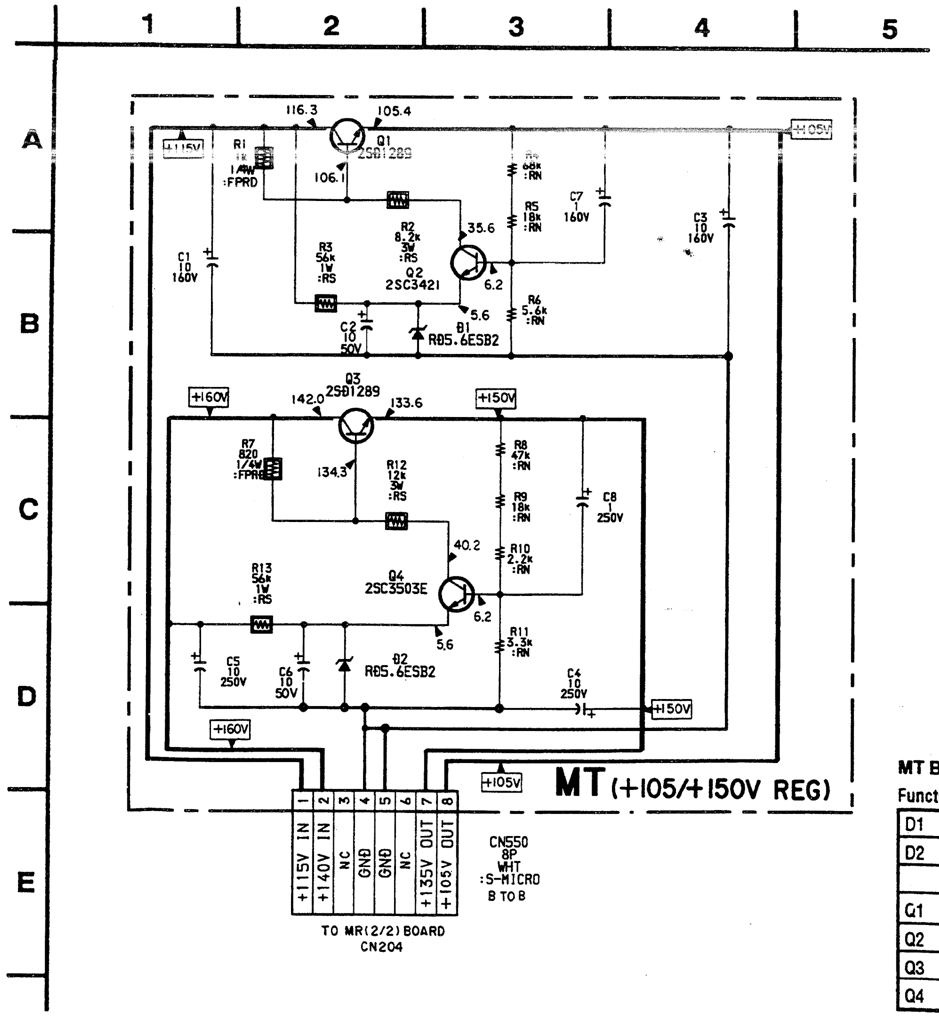

1
2
3
4
5
6
A
B
C
D
L (PROTECT CONTROL)
CN105 8 TO B 5P
TO MF (2/2) BOARD CN605
115V (HV)
115V
50V
15V
SUB5V
+115V
+15V
+50V
SUB+5V
R504 220k :CHIP
R503 220k :CHIP
R501 22k :CHIP
D501 1S2837
R502 10k :CHIP
R505 10k :CHIP
R506 1k :CHIP
C501 47 16V
IC501 (2/2) μPC393G2
IC501 (1/2) μPC393G2
R507 100 :CHIP
R508 220k :CHIP
R509 220k :CHIP
R510 10k :CHIP
R511 1k :CHIP
R512 100 :CHIP
R518 100k :CHIP
R519 100k :CHIP
R522 100 :CHIP
R521 1k :CHIP
IC502 (1/2) μPC393G2
R513 27k :CHIP
R514 27k :CHIP
R515 10k :CHIP
R516 1k :CHIP
R517 100 :CHIP
IC502 (2/2) μPC393G2
R520 10k :CHIP
TO MF (2/2) BOARD CN607
GND
P.PROT1
P.PROT2
P.PROT3
P.PROT4
NC
CRT.PROT IN
CRT.PROT OUT
CN107 8P B TO B
R523 100 :CHIP
Q501 DTC144EKA

L BOARD

Function of Semiconductor

D501	1S2837	DIS CHARGE
IC501	uPC393G2-T2	COMPARATOR-1
IC502	uPC393G2-T2	COMPARATOR-2

• MT (+105/+150V REGULATOR) DIAGRAM

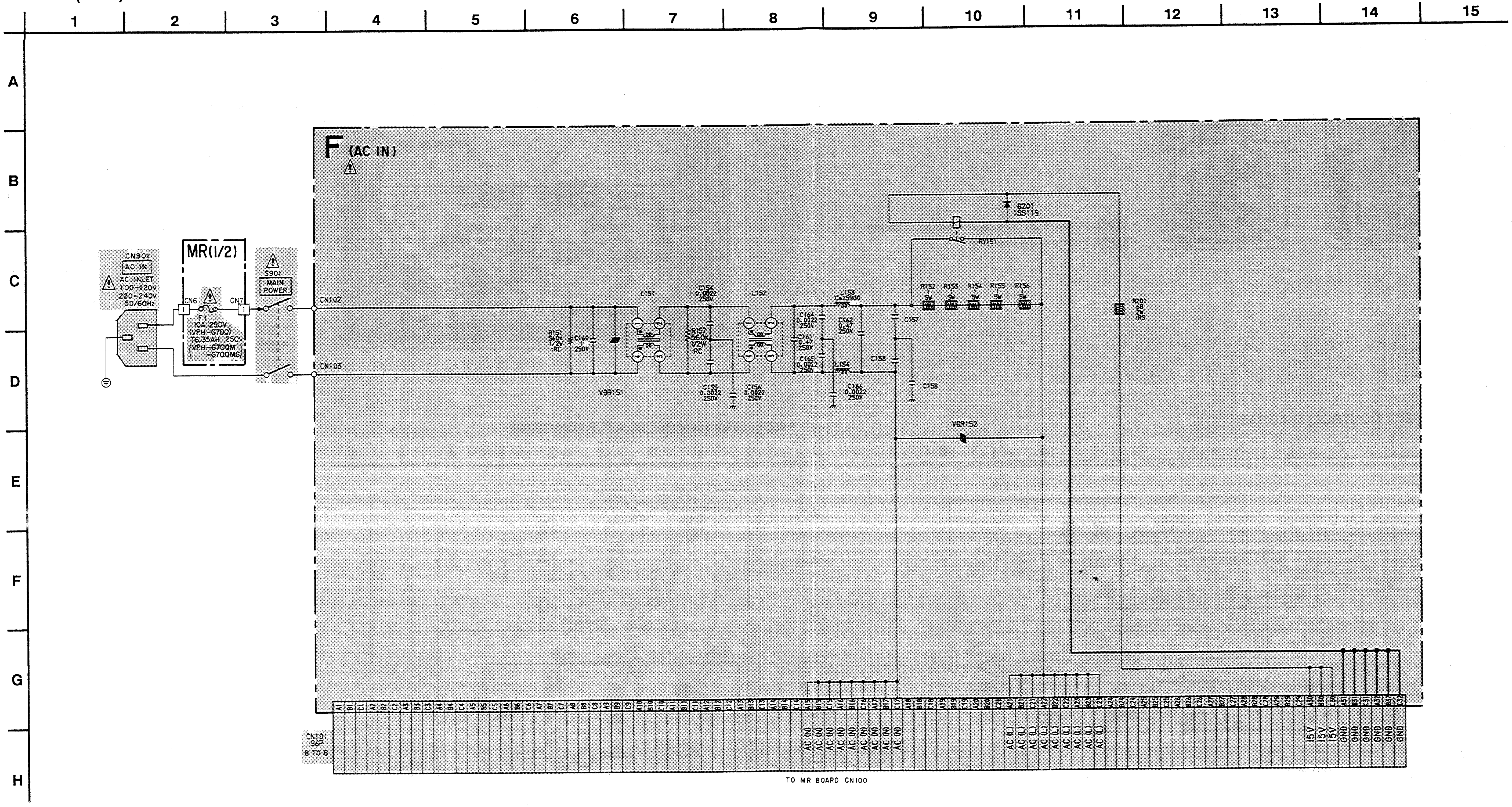

1
2
3
4
5
A
B
C
D
E
+115V
+105V
+160V
+150V
116.3
105.4
106.1
R1 1k 1/4W :FPRD
Q1 2SD1289
R2 8.2k 3W :RS
R3 56k 1W :RS
Q2 2SC3421
35.6
6.2
5.6
C2 10 50V
D1 RD5.6ESB2
R4 68k :RN
R5 18k :RN
R6 5.6k :RN
C7 1 160V
C1 10 160V
C3 10 160V
Q3 2SD1289
142.0
133.6
134.3
R7 820 1/4W :FPRD
R12 12k 3W :RS
R8 47k :RN
R9 18k :RN
R10 2.2k :RN
R11 3.3k :RN
C8 1 250V
40.2
Q4 2SC3503E
R13 56k 1W :RS
C5 10 250V
C6 10 50V
D2 RD5.6ESB2
C4 10 250V
MT (+105/+150V REG)
+115V IN
+140V IN
NC
GND
GND
NC
+135V OUT
+105V OUT
CN550 8P WHT :S-MICRO B TO B
TO MR(2/2) BOARD CN204

MT BOARD

Function of Semiconductor

D1	RD5.6ES-B2	REFERENCE
D2	RD5.6ES-B2	REFERENCE
Q1	2SD1289-Q	+100V REG.
Q2	2SC3421-Y	FEED BACK
Q3	2SD1289-Q	+135V REG.
Q4	2SC3503-E	FEED BACK

• F (AC IN) DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
F (AC IN)
CN901
AC IN
AC INLET
100-120V
220-240V
50/60Hz
MR(1/2)
CN6
CN7
F1
10A 250V
(VPH-G70Q)
T6.35AH 250V
(VPH-G70QM
-G70QMG)
S901
MAIN
POWER
CN102
CN103
R151
560k
1/2W
:RC
C160
1
250V
VDR151
L151
C154
0.0022
250V
C155
0.0022
250V
R157
560k
1/2W
:RC
C156
0.0022
250V
L152
C164
0.0022
250V
C161
0.47
250V
C165
0.0022
250V
L153
C=15900
C162
0.47
250V
L154
C166
0.0022
250V
C157
C158
C159
D201
1SS119
RY151
R152
5W
R153
5W
R154
5W
R155
5W
R156
5W
R201
68
2W
:RS
VDR152
CN101
96P
B TO B
AC (N)
AC (N)
AC (N)
AC (N)
AC (N)
AC (N)
AC (N)
AC (N)
AC (N)
AC (L)
AC (L)
AC (L)
AC (L)
AC (L)
AC (L)
AC (L)
AC (L)
AC (L)
15V
15V
15V
GND
GND
GND
GND
GND
GND
TO MR BOARD CN100

F BOARD

Function of Semiconductor

D201	1SS119-25TD	PROTECTOR

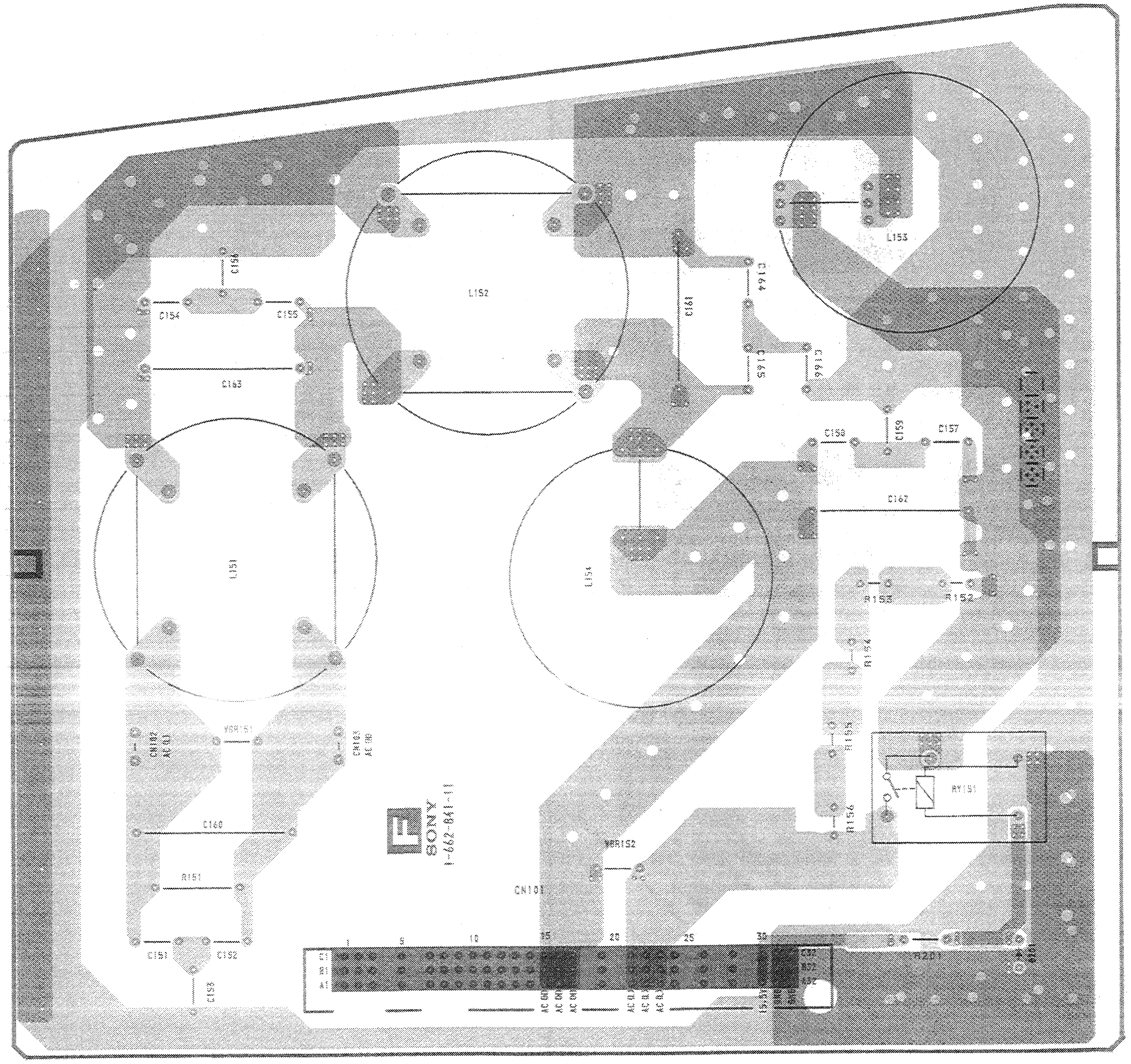
Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Schematic Diagram
← L MT board

F (AC IN) BOARD

— F BOARD — <Conductor side>


L152
L153
C154
C155
C156
C163
C161
C164
C165
C166
L151
L154
C150
C159
C157
C162
R153
R152
R154
R155
R156
RY151
CN102 AC OUT
CN101 AC IN
VDR151
C160
R151
C151
C152
C153
VDR152
CN103
R201
F
SONY
1-662-841-11

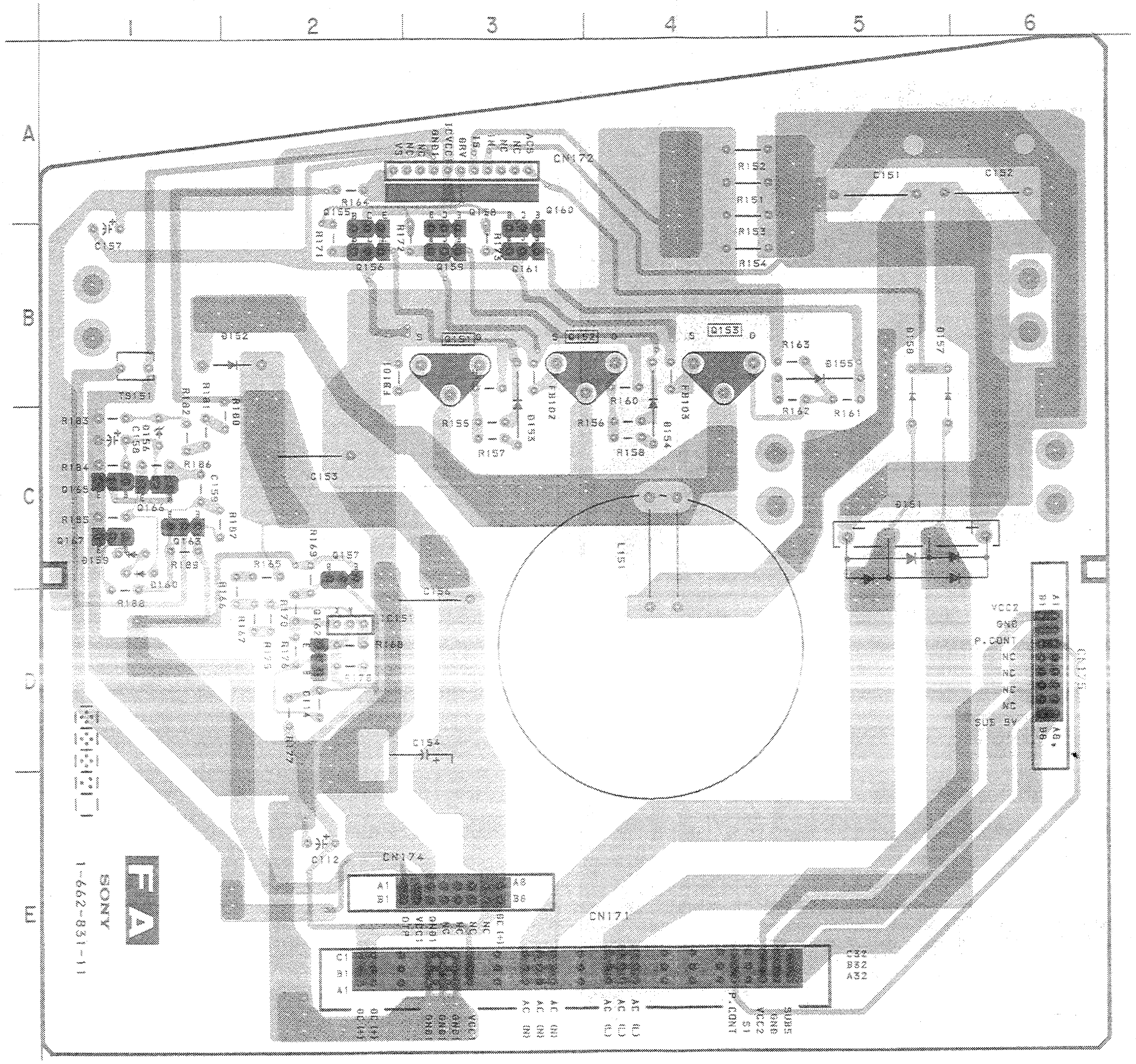
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

FA (POWER RECT) BOARD

FA BOARD
Semiconductors Location

DIODE	
D151	C-5
D152	B-2
D153	C-3
D154	C-4
D155	B-5
D156	C-1
D157	B-5
D158	B-5
D159	C-1
D160	C-1
IC	
IC151	D-2
TRANSISTOR	
Q151	B-3
Q152	B-3
Q153	B-4
Q155	B-2
Q156	B-2
Q157	C-2
Q158	B-3
Q159	B-3
Q160	B-3
Q161	B-3
Q162	D-2
Q163	C-1
Q165	C-1
Q166	C-1
Q167	C-1

— FA BOARD — <Conductor side>

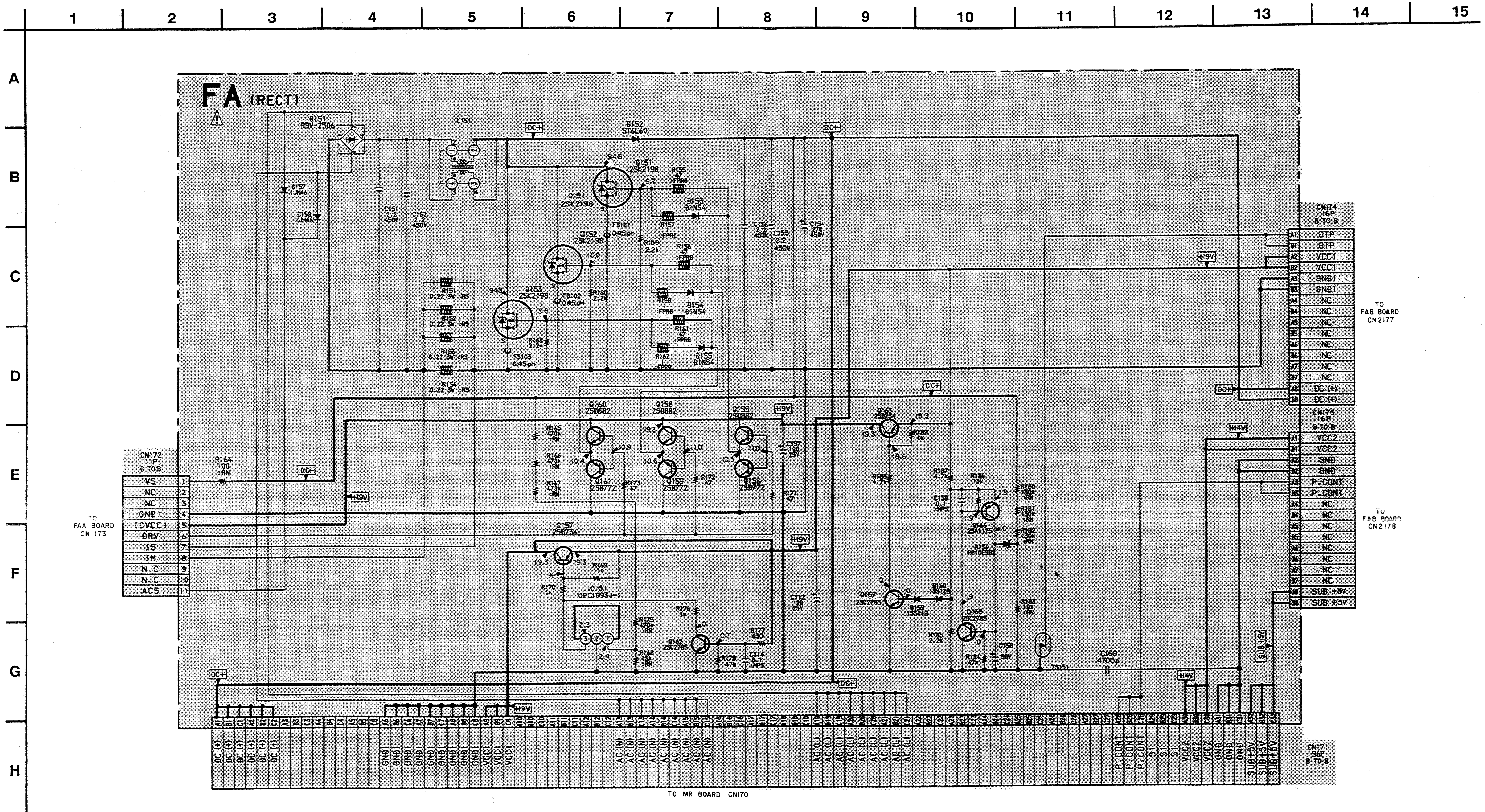

1
2
3
4
5
6
A
B
C
D
E
CN172
CN171
CN174
CN175
C151
C152
C153
C154
C157
C172
D151
D152
D153
D154
D155
D156
D157
D158
D159
D160
IC151
Q151
Q152
Q153
Q155
Q156
Q157
Q158
Q159
Q160
Q161
Q162
Q163
Q165
Q166
Q167
L151
T9151
FA
SONY
1-662-831-11
VCC2
GND
P.CONT
NC
SUB 5V
A1
B1
C1
A8
B8
C32
B32
A32

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

FA BOARD
Function of Semiconductor

D151	RBV-2506	AC RECT
D152	S16L60	375V RECT
D153	D1NS4-TA	SPEED UP-1
D154	D1NS4-TA	SPEED UP-2
D155	D1NS4-TA	SPEED UP-3
D156	RD10ES-B2	SWITCH
D157	1SS119-25TD	RECT-1
D158	1SS119-25TD	RECT-2
D159	1JH46-TPA3	BIAS-1
D160	1JH46-TPA3	BIAS-2
IC151	uPC1093J-1-T	M.VCC1 SW-2
Q151	2SK2198	CONVERTER-1
Q152	2SK2198	CONVERTER-2
Q153	2SK2198	CONVERTER-3
Q155	2SD882-Q	BUFFER-1
Q156	2SB772-Q	BUFFER-2
Q157	2SB734-T-34	M.VCC1 SWITCH-1
Q158	2SD882-Q	BUFFER-3
Q159	2SB772-Q	BUFFER-4
Q160	2SD882-Q	BUFFER-5
Q161	2SB772-Q	BUFFER-6
Q162	2SC2785TP-HFE	VCC1 REG CONT.
Q163	2SB734-T-34	P.F.C. VCC1 SW-1
Q164	2SC2785TP-HFE	P.F.C. VCC SW2
Q165	2SC2785TP-HFE	P.F.C. OVP. SW-1
Q166	2SA1175TP-HFE	P.F.C. OVP. SW-2

• FA (POWER RECT) DIAGRAM


FA (RECT)
D151 RBV-2506
L151
D152 S16L60
DC+
D157 1JH46
D158 1JH46
C151 2.2 450V
C152 2.2 450V
Q151 2SK2198
Q152 2SK2198
Q153 2SK2198
FB101 0.45μH
FB102 0.45μH
FB103 0.45μH
R151 0.22 5W :RS
R152 0.22 5W :RS
R153 0.22 5W :RS
R154 0.22 5W :RS
D153 B1N54
D154 B1N54
D155 B1N54
C153 2.2 450V
C154 270 450V
Q160 2SB882
Q158 2SB882
Q155 2SB882
Q161 2SB772
Q159 2SB772
Q156 2SB772
Q157 2SB734
IC151 UPC1093J-1
Q162 2SC2785
Q163 2SB734
Q166 2SA1175
Q167 2SC2785
Q165 2SC2785
D156 RD10ESB2
D160 1SS119
D159 1SS119
TS151
C160 4700p
H9V
H4V
SUB+5V
CN172 11P B TO B
VS
NC
NC
GND1
ICVCC1
DRV
IS
IM
N.C
N.C
ACS
TO FAA BOARD CN1173
CN174 16P B TO B
OTP
OTP
VCC1
VCC1
GND1
GND1
NC
DC (+)
DC (+)
TO FAB BOARD CN2177
CN175 16P B TO B
VCC2
VCC2
GND
GND
P.CONT
P.CONT
SUB +5V
SUB +5V
TO FAB BOARD CN2178
CN171 56P B TO B
DC (+)
GND1
VCC1
AC (N)
AC (L)
P.CONT
S1
VCC2
GND
SUB+5V
TO MR BOARD CN170
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H

I

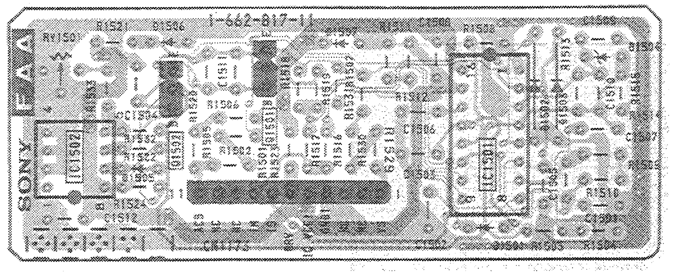
J

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

FAA (HIGH VOLTAGE REGULATOR) BOARD

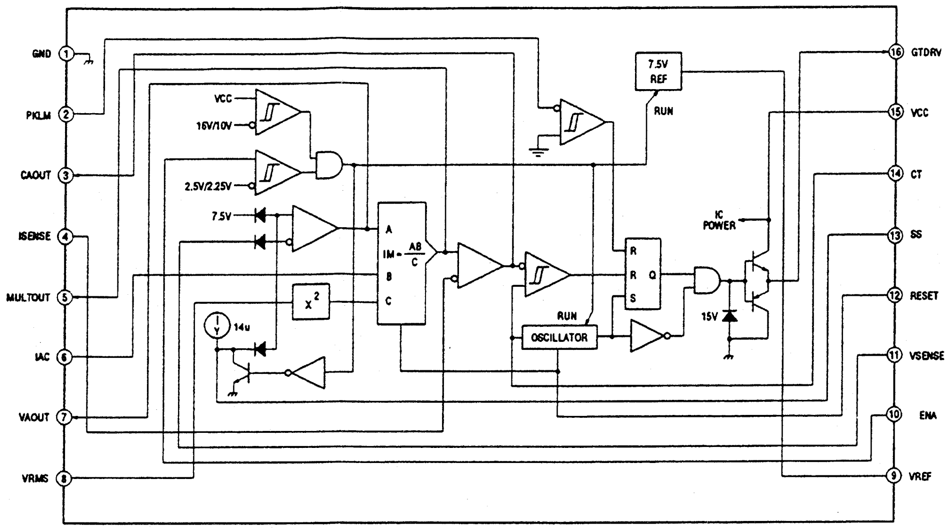
— FAA BOARD — <Conductor side>


SONY
F A A
1-662-817-11
RY1501
IC1502
IC1501
CN1173

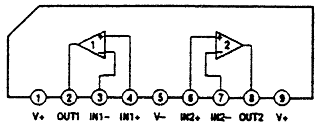
- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

FAA BOARD IC Block Diagrams

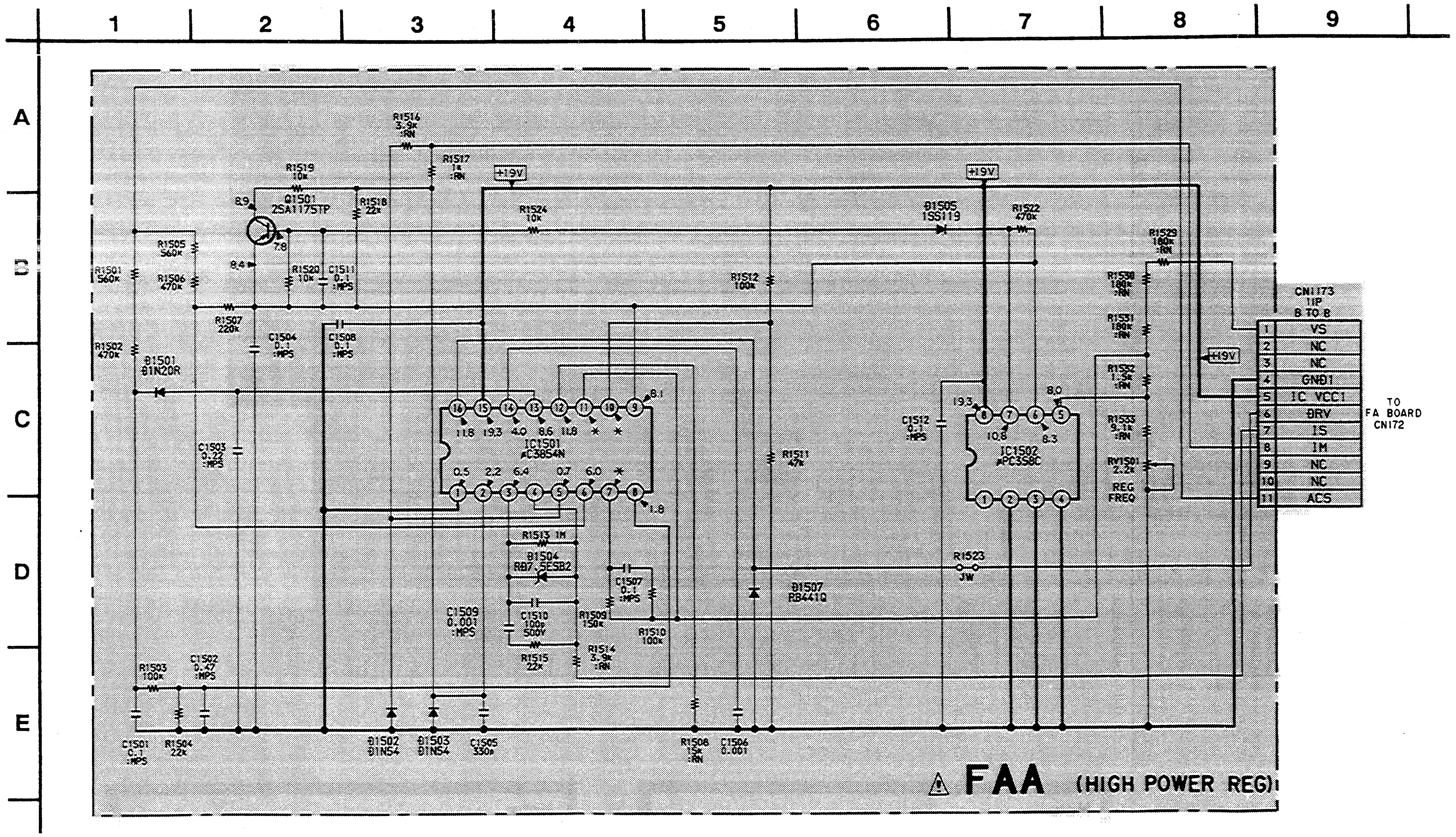
MC3854N (IC1501)


GND 1
PKLM 2
CAOUT 3
ISENSE 4
MULTOUT 5
IAC 6
VAOUT 7
VRMS 8
16 GTDRV
15 VCC
14 CT
13 SS
12 RESET
11 VSENSE
10 ENA
9 VREF
VCC
16V/10V
2.5V/2.25V
7.5V
7.5V REF
RUN
A
IM= AB/C
B
C
X^2
14u
IC POWER
R
R Q
S
RUN
OSCILLATOR
15V

uPC358C (IC1502)


1
2
3
4
5
6
7
8
V+
OUT1
IN1-
IN1+
V-
IN2+
IN2-
OUT2
V+

• FAA (HIGH VOLTAGE REGULATOR) DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
R1514 3.9k :RN
R1517 1k :RN
+19V
R1519 10k
Q1501 2SA1175TP
R1518 22k
R1524 10k
D1505 1SS119
+19V
R1522 470k
R1529 180k :RN
R1505 560k
R1506 470k
R1501 560k
R1520 10k
C1511 0.1 :MPS
R1512 100k
R1530 180k :RN
R1507 220k
C1504 0.1 :MPS
C1508 0.1 :MPS
R1531 180k :RN
R1502 470k
D1501 D1N20R
R1532 1.5k :RN
C1503 0.22 :MPS
IC1501 μPC3854N
C1512 0.1 :MPS
IC1502 μPC358C
R1533 9.1k :RN
RV1501 2.2k
REG FREQ
R1511 47k
R1513 1M
D1504 RD7.5ESB2
C1507 0.1 :MPS
D1507 RB441Q
R1523 JW
C1509 0.001 :MPS
C1510 100p 500V
R1509 150k
R1510 100k
R1515 22k
R1516 3.9k :RN
R1503 100k
C1502 0.47 :MPS
C1501 0.1 :MPS
R1504 22k
D1502 D1NS4
D1503 D1NS4
C1505 330p
R1506 15k :RN
C1506 0.001
CN1173 11P B TO B
1 VS
2 NC
3 NC
4 GND1
5 IC VCC1
6 DRV
7 IS
8 IM
9 NC
10 NC
11 ACS
TO FA BOARD CN172
⚠ FAA (HIGH POWER REG)

Schematic Diagram

← FA board

FAA BOARD

Function of Semiconductor

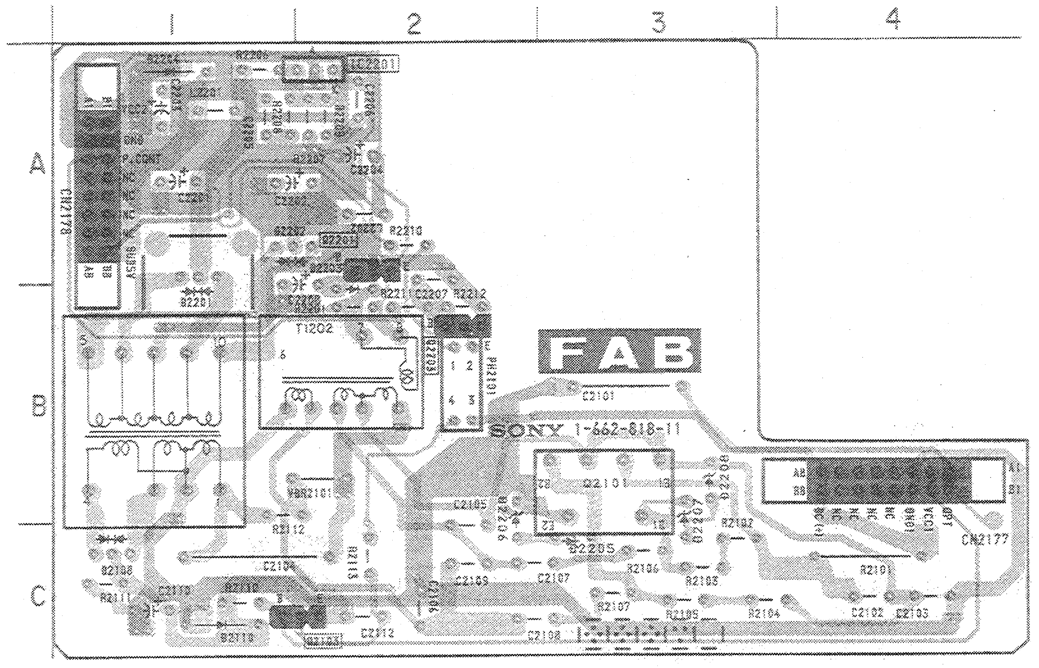
D1501	D1N20R-TA	DISCHARGE
D1502	D1NS4-TA	LIMITTER-1
D1503	D1NS4-TA	LIMITTER-2
D1504	RD7.5ES-B2	LIMITTER-3
D1505	1SS119-25TD	SWITCH-1
IC1501	uPC3854N	P.F.C. CONT.-1
IC1502	uPC358C	P.F.C. CONT.-2
Q1501	2SA1175TP-HFE	SWITCH-2

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

FAB (DC REGULATOR) BOARD

— FAB BOARD — <Conductor side>

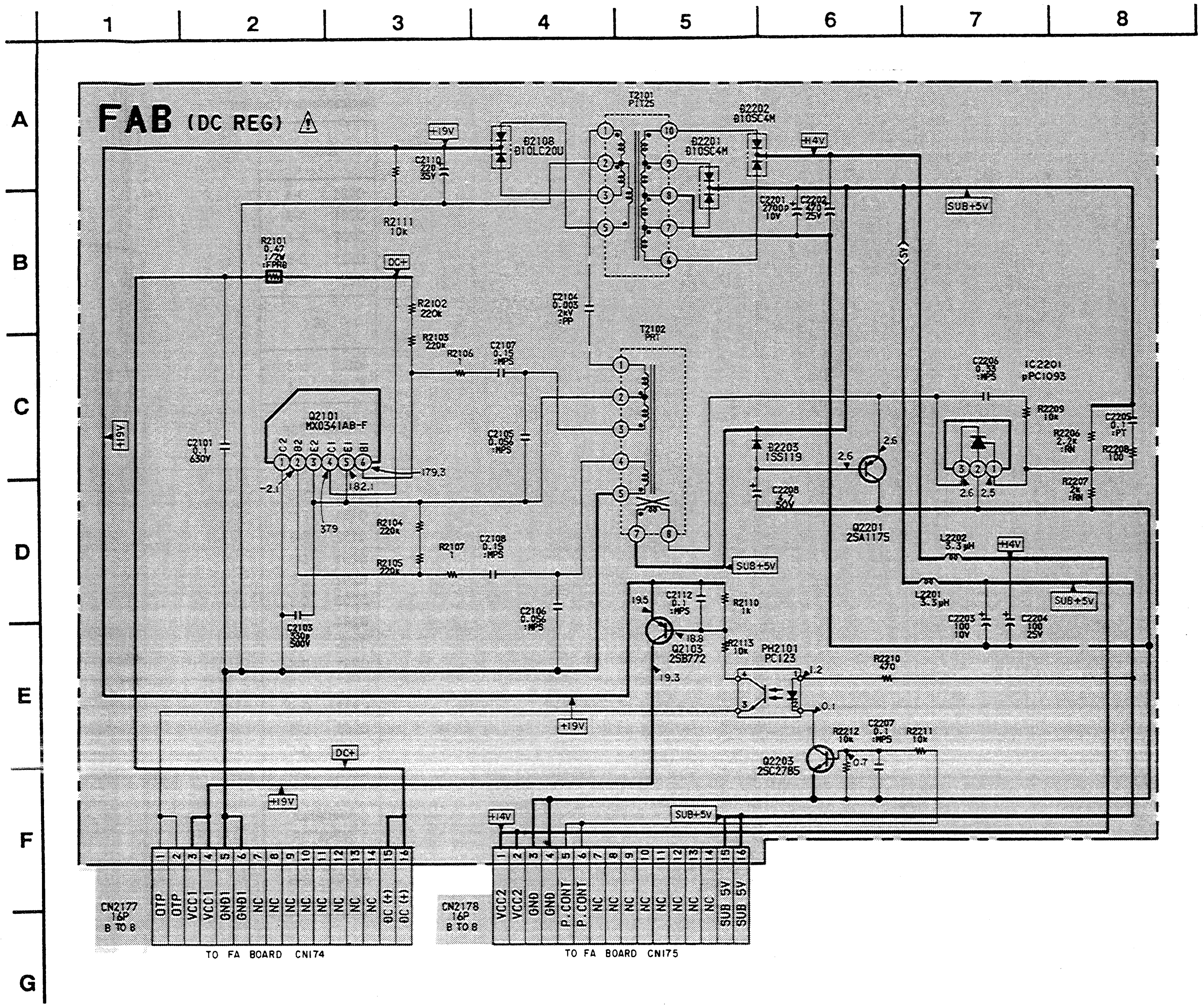

1
2
3
4
A
B
C
FAB
SONY 1-662-818-11
CN2178
CN2177
T1202
IC2201
Q2101
PH2101
VBR2101
C2101
C2105
C2107
C2108
R2101
R2104
R2105
R2106
R2107
R2111
R2112
R2113
A1
B1
A8
B8

- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

FAB BOARD
Semiconductors Location

DIODE	
D2108	C-1
D2201	B-1
D2202	A-2
D2203	A-2
IC	
IC2201	A-2
TRANSISTOR	
Q2101	B-3
Q2103	C-2
Q2201	A-2
Q2203	B-2

• FAB (DC REGULATOR) DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
FAB (DC REG) ⚠
+19V
D2108 D10LC20U
C2110 220 35V
R2111 10k
R2101 0.47 1/2W :FPRB
DC+
R2102 220k
R2103 220k
R2106 1
C2107 0.15 :MPS
C2104 0.003 2kV :PP
T2101 PIT25
T2102 PRT
Q2101 MX0341AB-F
C2 B2 E2 C1 E1 B1
C2101 0.1 630V
C2105 0.056 :MPS
-2.1
182.1
179.3
379
R2104 220k
R2105 220k
R2107 1
C2108 0.15 :MPS
C2106 0.056 :MPS
C2103 330p 500V
D2202 D10SC4M
D2201 D10SC4M
+14V
C2201 2700p 10V
C2202 470 25V
SUB+5V
(5V)
D2203 1SS119
C2208 4.7 50V
Q2201 2SA1175
2.6
2.5
C2206 0.33 :MPS
IC2201 μPC1093
R2209 10k
R2206 2.2k :RN
C2205 0.1 :PT
R2208 100
R2207 2k :RN
L2202 3.3μH
L2201 3.3μH
C2203 100 10V
C2204 100 25V
19.5
C2112 0.1 :MPS
R2110 1k
18.8
Q2103 2SB772
19.3
R2113 10k
PH2101 PC123
1.2
0.1
R2210 470
R2212 10k
C2207 0.1 :MPS
R2211 10k
Q2203 2SC2785
0.7
CN2177 16P B TO B
OTP OTP VCC1 VCC1 GND1 GND1 NC NC NC NC NC NC NC NC DC(+) DC(+)
TO FA BOARD CN174
CN2178 16P B TO B
VCC2 VCC2 GND GND P.CONT P.CONT NC NC NC NC NC NC NC NC SUB 5V SUB 5V
TO FA BOARD CN175

FAB BOARD
Function of Semiconductor

D2108	D10LC20U	VCC1 RECT
D2201	D10SC4M	SUB 5V RECT
D2202	D10SC4M	VCC2 RECT
D2203	1SS119-25TD	DISCHARGE
IC2201	uPC1093J-1-T	REGULATOR
Q2101	MX034AB-F	CONVERTER
Q2103	2SB772-Q	VCC1. SW
Q2201	2SA1175TP-HFE	SOFT. START
Q2203	2SC2785TP-HFE	P.CONT. SW

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

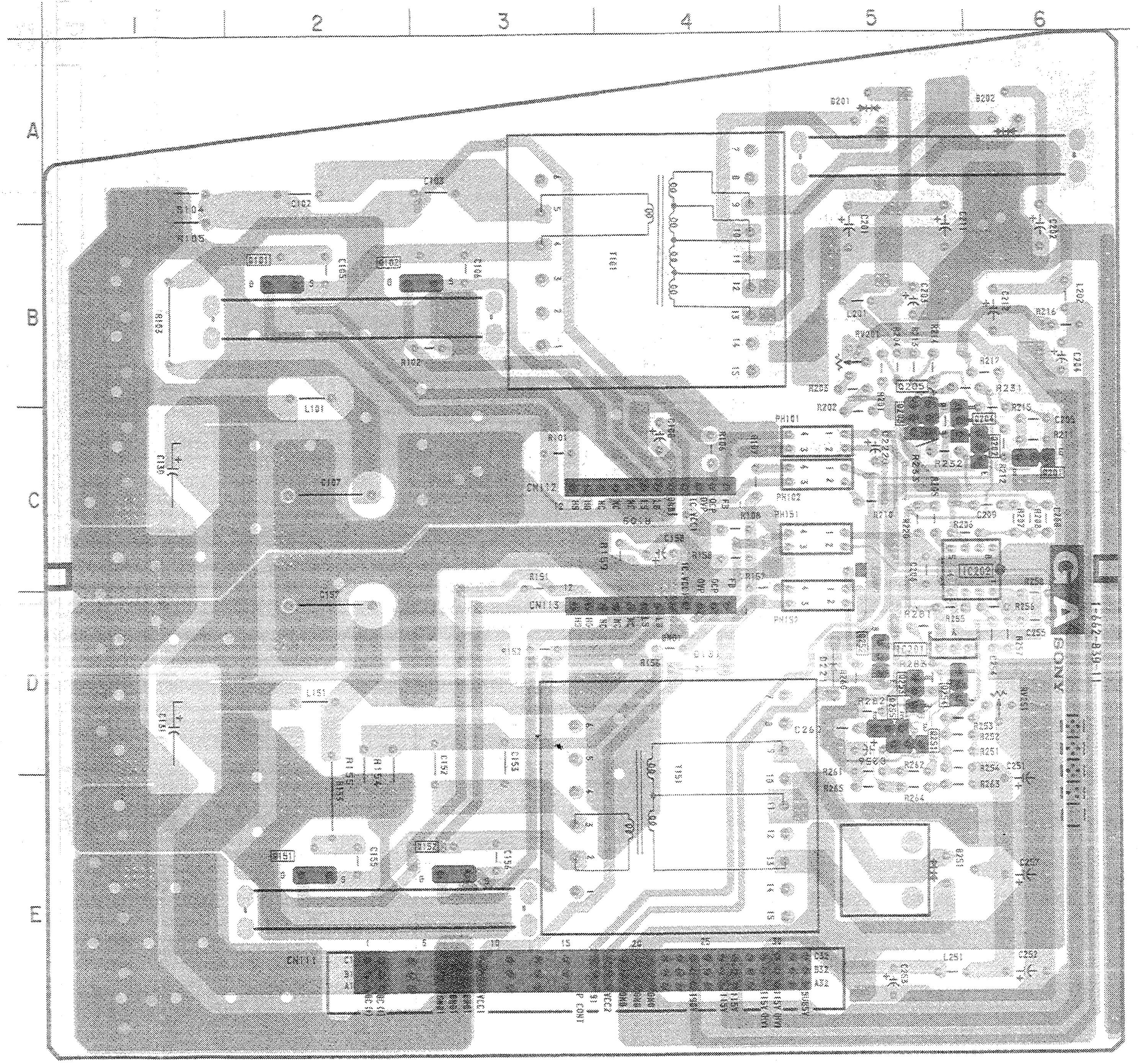
Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

GA (HIGH VOLTAGE REGULATOR) BOARD

— GA BOARD — <Conductor side>

GA BOARD
Semiconductors Location

DIODE	
D131	D-4
D201	A-5
D202	A-6
D221	D-5
D251	E-5
IC	
IC201	D-5
IC202	C-6
TRANSISTOR	
Q101	B-2
Q102	B-3
Q151	E-2
Q152	E-3
Q201	C-6
Q202	C-6
Q203	C-5
Q204	C-5
Q205	C-5
Q251	D-5
Q252	D-5
Q253	D-5
Q254	D-5
Q255	D-5
VARIABLE RESISTOR	
RV201	B-5
RV251	D-6


1
2
3
4
5
6
A
B
C
D
E
T101
T151
CN111
CN112
CN113
IC201
IC202
GA
SONY
1-642-830-11

- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

Schematic Diagram

← FAB board

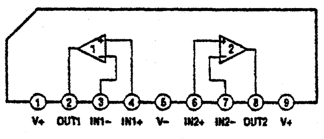
GA BOARD

Function of Semiconductor

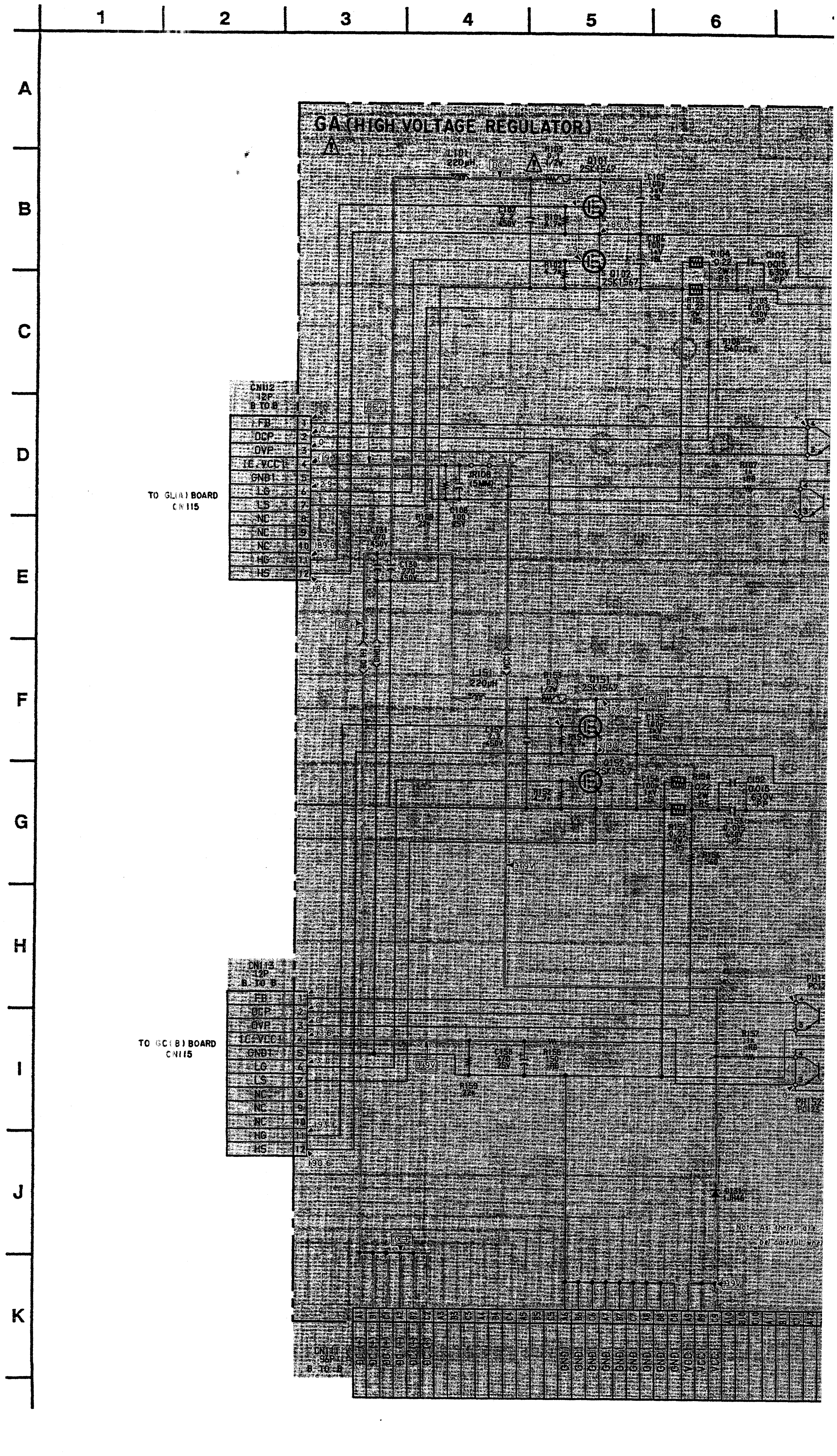
D131	1JH46-TPA3	PROTECTOR-1
D201	F10P40F	115V RECT
D202	FCF10A60	140V RECT
D221	1JH46-TPA3	PROTECTOR-2
D251	F10P40F	115V (HV) RECT
IC201	uPC1093J-1-T	REGULATOR
IC202	uPC358C	F.B. AMP
Q101	2SK1567	CONVERTER-1
Q102	2SK1567	CONVERTER-2
Q151	2SK1567	CONVERTER-3
Q152	2SK1567	CONVERTER-4
Q201	2SC2785TP-HFE	115V OVP. SW-1
Q202	DTA124ESA-TP	115V OVP. SW-2
Q203	2SC2785TP-HFE	115V OVP. SW-3
Q204	2SA1175TP-HFE	115V OVP. SW-4
Q205	2SC2785TP-HFE	115V OVP. SW-5
Q251	2SC2785TP-HFE	115V (HV) OVP. SW-1
Q252	DTA124ESA-TP	115V (HV) OVP. SW-2
Q253	2SC2785TP-HFE	115V (HV) OVP. SW-3
Q254	2SA1175TP-HFE	115V (HV) OVP. SW-4
Q255	2SC2785TP-HFE	115V (HV) OVP. SW-5

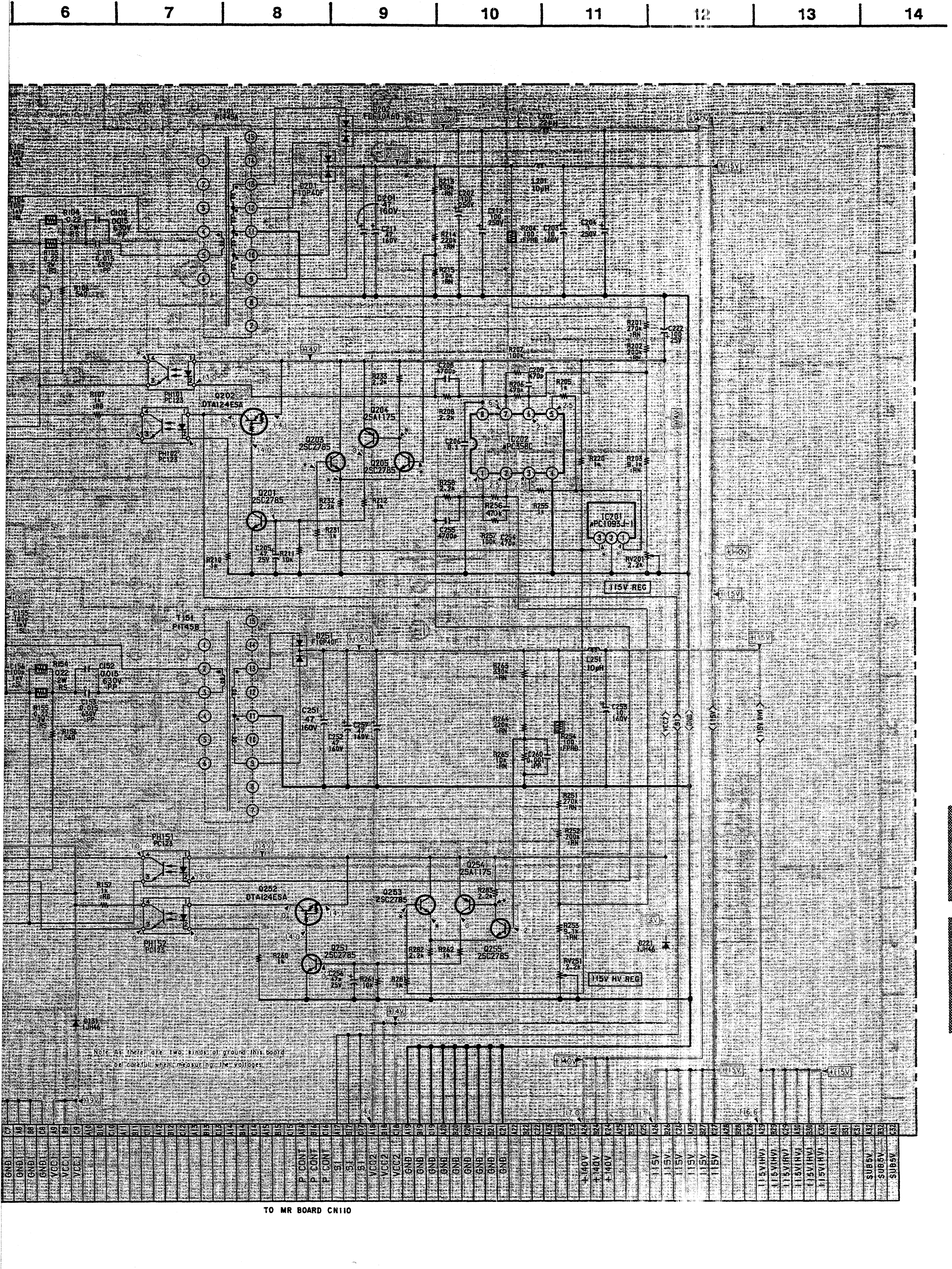
GA BOARD IC Block Diagrams

uPC358C (IC202)


1
2
① V+
② OUT1
③ IN1−
④ IN1+
⑤ V−
⑥ IN2+
⑦ IN2−
⑧ OUT2
⑨ V+

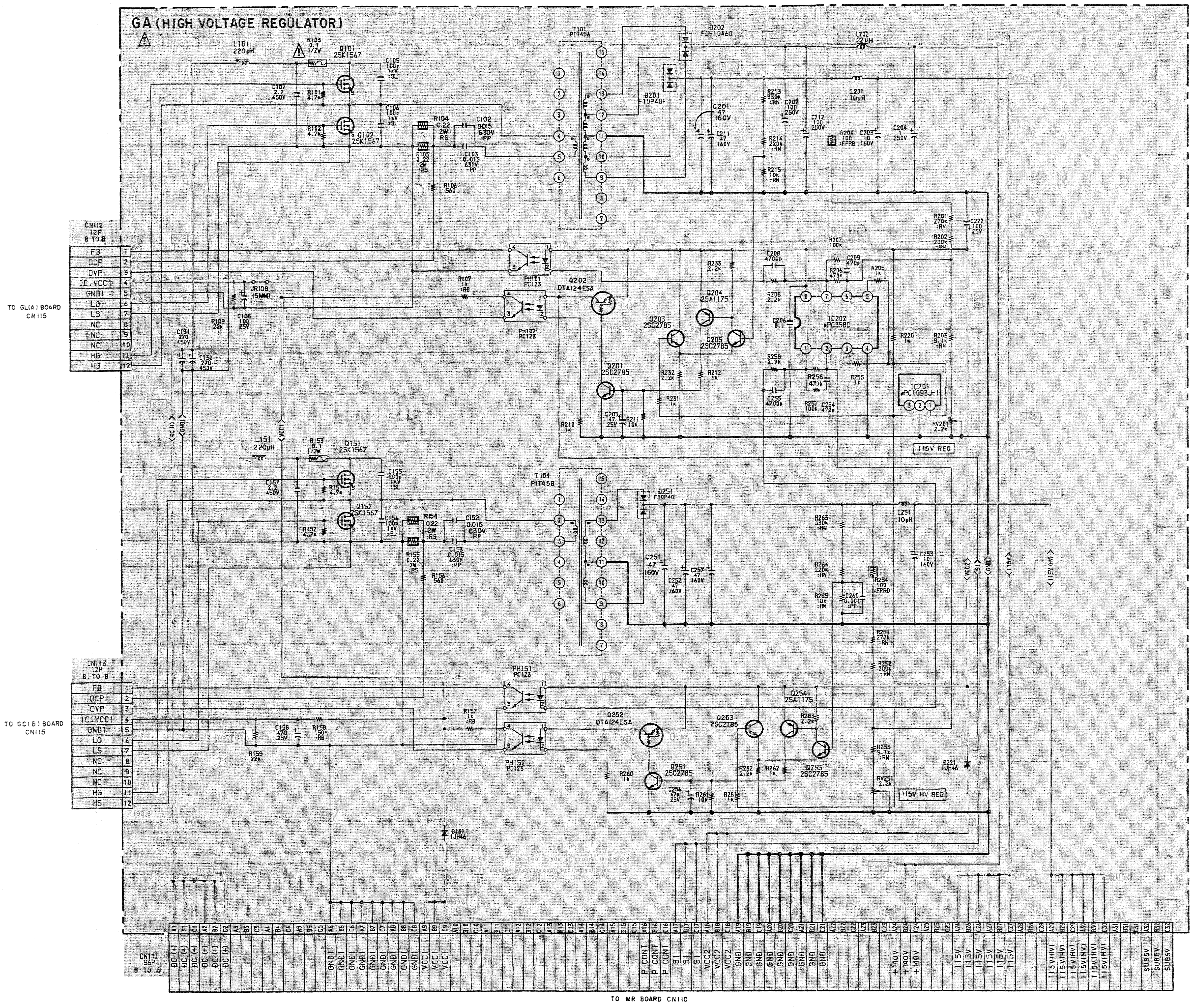
• GA (HIGH VOLTAGE REGULATOR) DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
GA (HIGH VOLTAGE REGULATOR)
L101 220μH
Q101 2SK1567
Q102 2SK1567
L151 220μH
Q151 2SK1567
Q152 2SK1567
CN112 12P B TO B
FB 1
OCP 2
OVP 3
IC VCC1 4
GND1 5
LG 6
LS 7
NC 8
NC 9
NC 10
HG 11
HS 12
0
0
193
29
189.6
186.6
TO GL(A) BOARD CN115
CN113 12P B TO B
FB 1
OCP 2
OVP 3
IC VCC1 4
GND1 5
LG 6
LS 7
NC 8
NC 9
NC 10
HG 11
HS 12
0
0
13.6
193.L
190.6
TO GC(B) BOARD CN115
GND
GND
GND
GND
GND
GND
VCC
VCC
VCC


6
7
8
9
10
11
12
13
14
PH101 PC123
PH102 PC123
Q202 DTA124ESA
Q204 2SA1175
Q203 2SC2785
Q205 2SC2785
Q201 2SC2785
IC202 μPC358C
IC201 μPC1093J-1
115V REG
T151 PIT45B
D251 F10P40F
L251 10μH
PH151 PC123
PH152 PC123
Q252 DTA124ESA
Q254 2SA1175
Q253 2SC2785
Q251 2SC2785
Q255 2SC2785
115V HV REG
Note: As there are two kinds of ground this board be careful when measuring the voltages.
GND
VCC
P CONT
S1
VCC2
+140V
115V
115V(HV)
SUB5V
TO MR BOARD CN110

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

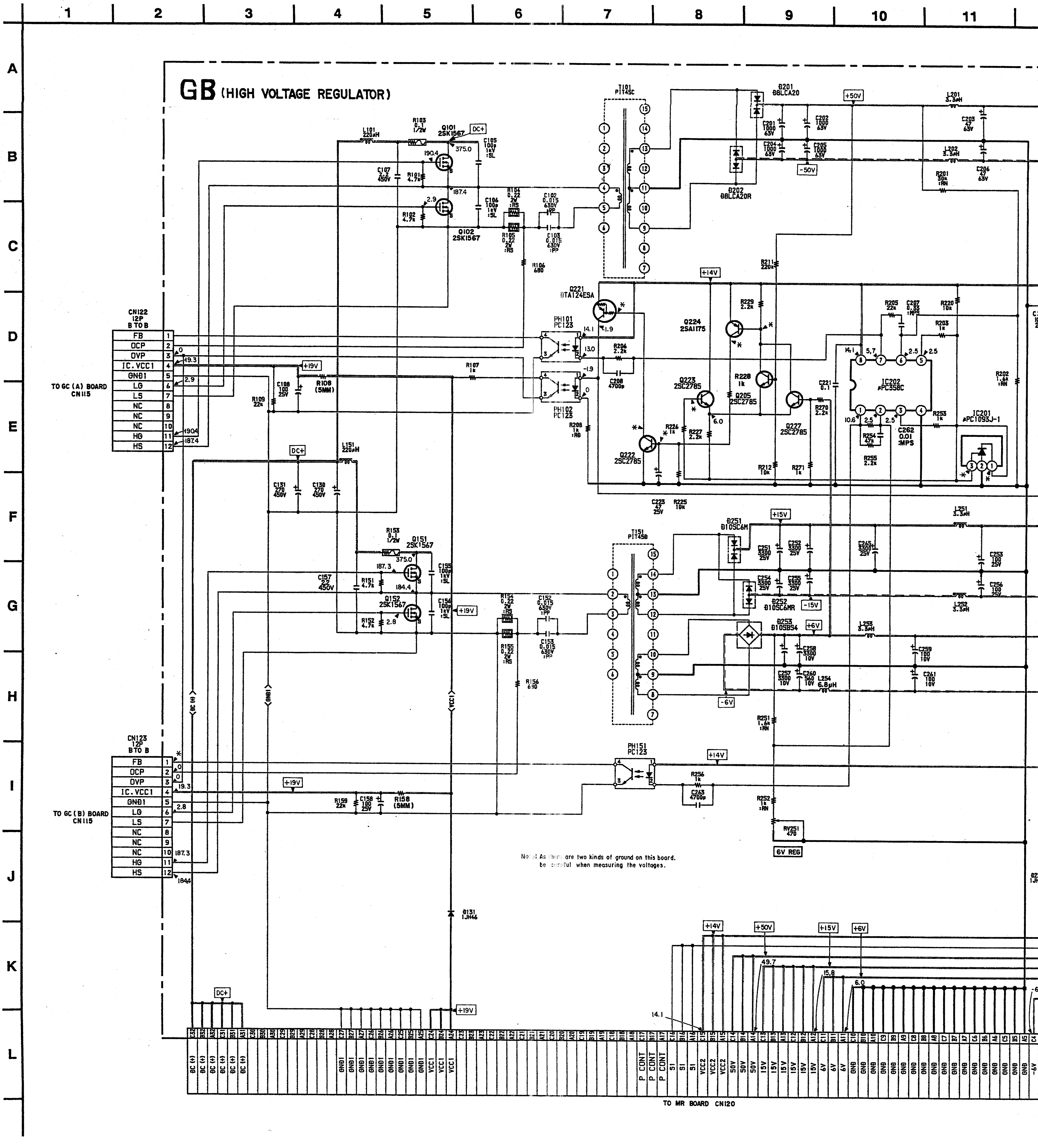
Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


GA (HIGH VOLTAGE REGULATOR)
T101 PIT45A
D202 FCF10A60
L101 220μH
R103 0.1 1/2W
Q101 2SK1567
Q102 2SK1567
C105 100p 1kV :SL
C106 100p 1kV :SL
C107 2.2 450V
R101 4.7k
R102 4.7k
R104 0.22 2W :RS
R105 0.22 2W :RS
C102 0.015 630V :PP
C103 0.015 630V :PP
R106 560
D201 F10P40F
C201 47 160V
C211 47 160V
R213 330k :RN
R214 220k :RN
R215 10k :RN
C202 100 250V
C212 100 250V
L202 22μH
L201 10μH
R204 100 :FPRB
C203 10 160V
C204 1 250V
R201 270k :RN
R202 200k :RN
C222 100 25V
CN112 12P B TO B
FB
OCP
OVP
IC.VCC1
GND1
LG
LS
NC
NC
NC
HG
HS
TO GL(A) BOARD CN115
JR108 (5MM)
C108 100 25V
R109 22k
C131 270 450V
C130 270 450V
PH101 PC123
PH102 PC123
R107 1k :RB
Q202 DTA124ESA
Q203 2SC2785
Q204 2SA1175
Q205 2SC2785
Q201 2SC2785
R233 2.2k
R207 100k
C208 4700p
C209 470p
R206 470k
R205 1k
R208 2.2k
C206 0.1
IC202 μPC358C
R220 1k
R203 9.1k :RN
R250 2.2k
R256 470k
R255 1k
C255 4700p
R257 100k
C254 470p
IC201 μPC1093J-1
RV201 2.2k
R232 2.2k
R212 1k
R231 1k
R210 1k
C205 47 25V
R211 10k
115V REG
L151 220μH
R153 0.1 1/2W
Q151 2SK1567
Q152 2SK1567
C155 100p 1kV :SL
C157 2.2 450V
R151 4.7k
R152 4.7k
C154 100p 1kV :SL
R154 0.22 2W :RS
R155 0.22 2W :RS
C152 0.015 630V :PP
C153 0.015 630V :PP
R156 560
T151 PIT45B
D251 F10P40F
C251 47 160V
C252 47 160V
C257 47 160V
R263 330k :RN
R264 220k :RN
R265 10k :RN
R254 100 :FPRB
C260 0.001 :PP
L251 10μH
C253 10 160V
R251 270k :RN
R252 200k :RN
CN113 12P B TO B
TO GC(B) BOARD CN115
C158 470 25V
R158 150 :RB
R159 22k
PH151 PC123
PH152 PC123
R157 1k :RB
Q252 DTA124ESA
Q253 2SC2785
Q254 2SA1175
R283 2.2k
Q255 2SC2785
Q251 2SC2785
R260 1k
C256 47 25V
R261 10k
R281 1k
R282 2.2k
R262 1k
R253 9.1k :RN
RV251 2.2k
D221 1JH46
115V HV REG
D131 1JH46 :RB
CN111 96P B TO B
DC(+)
GND1
VCC1
P CONT
S1
VCC2
GND
+140V
115V
115V(HV)
SUB5V
TO MR BOARD CN110

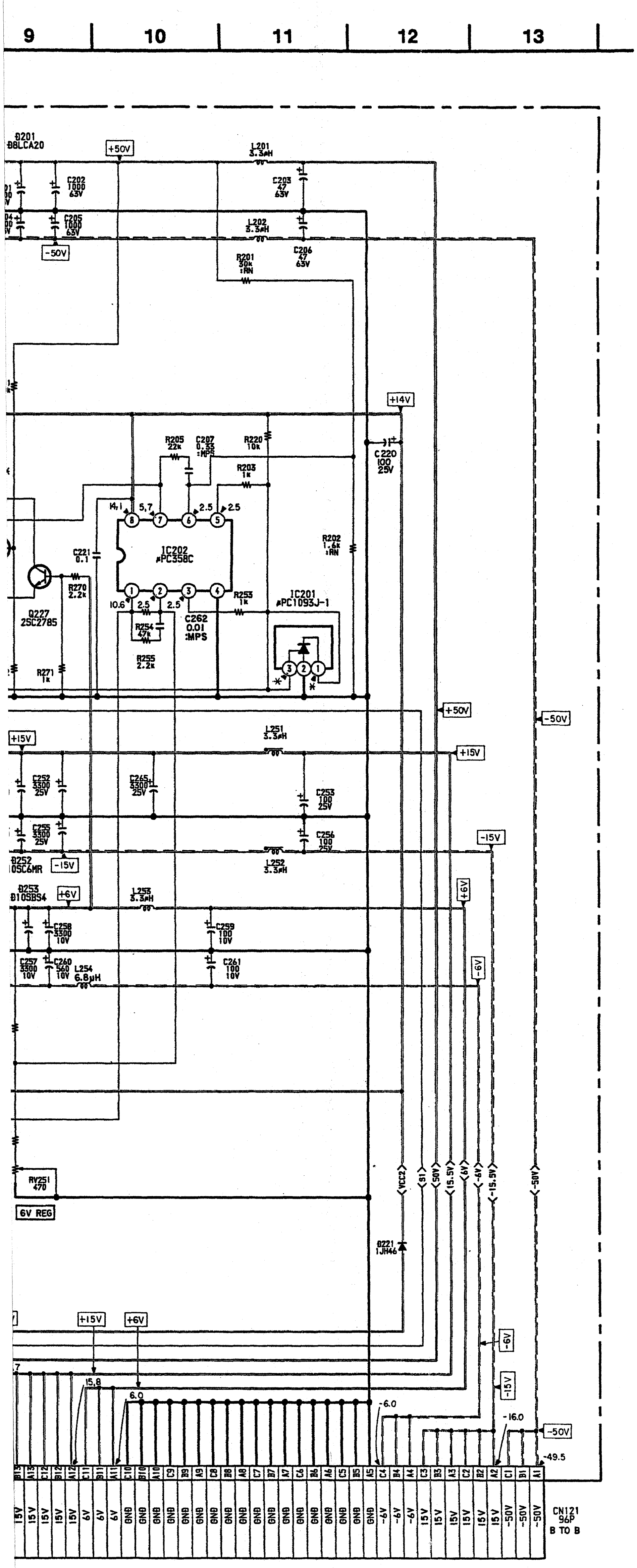
Note:
The components identified by shading and mark
are critical for safety. Replace only with part numb
specified.

Note:
Les composants identifiés par un tramé et u
marque ⚠ sont critiques pour la sécurité. Ne l
remplacer que par une pièce portant le numé
spécifié.

• GB (HIGH VOLTAGE REGULATOR) DIAGRAM


GB (HIGH VOLTAGE REGULATOR)
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
CN122 12P B TO B
FB
OCP
OVP
IC.VCC1
GND1
LG
LS
NC
NC
NC
HG
HS
TO GC (A) BOARD CN115
CN123 12P B TO B
TO GC (B) BOARD CN115
L101 220μH
R103 0.1 1/2W
Q101 2SK1567
DC+
C105 100p 1kV :SL
C107 2.2 450V
R101 4.7k
R102 4.7k
Q102 2SK1567
C106 100p 1kV :SL
R104 0.22 2W :RS
R105 0.22 2W :RS
C102 0.015 630V :PP
C103 0.015 630V :PP
R106 680
T101 PIT45C
D201 8BLCA20
D202 8BLCA20R
C201 1000 63V
C202 1000 63V
C204 1000 63V
C205 1000 63V
+50V
-50V
L201 3.3μH
L202 3.3μH
C203 47 63V
C206 47 63V
R201 30k :RN
R211 220k
+14V
Q221 8TA124ESA
PH101 PC123
PH102 PC123
R206 2.2k
C208 4700p
R107 1k
C108 100 25V
R108 (5MM)
R109 22k
+19V
R208 1k :RB
Q224 2SA1175
R229 2.2k
R228 1k
Q223 2SC2785
Q205 2SC2785
Q222 2SC2785
Q227 2SC2785
R226 1k
R227 2.2k
C221 0.1
R270 2.2k
R212 10k
R271 1k
C223 47 25V
R225 10k
IC202 μPC358C
R205 22k
C207 0.33 :MPS
R220 10k
R203 1k
R202 1.6k :RN
R253 1k
R254 47k
R255 2.2k
C262 0.01 :MPS
IC201 μPC1093J-1
L151 220μH
C131 270 450V
C130 270 450V
R153 0.1 1/2W
Q151 2SK1567
C157 22 450V
R151 4.7k
Q152 2SK1567
R152 4.7k
C155 100p 1kV :SL
C156 100p 1kV :SL
R154 0.22 2W :RS
R155 0.22 2W :RS
C152 0.015 630V :PP
C153 0.015 630V :PP
R156 680
T151 PIT45B
D251 81OSC6M
+15V
C251 3300 25V
C252 3300 25V
C254 3300 25V
C255 3300 25V
D252 81OSC6MR
-15V
C265 3300 25V
L251 3.3μH
C253 100 25V
C256 100 25V
L252 3.3μH
D253 81OSBS4
+6V
L253 3.3μH
C257 3300 10V
C258 3300 10V
C260 560 10V
L254 6.8μH
C259 100 10V
C261 100 10V
-6V
R251 1.6k :RN
PH151 PC123
R256 1k
C263 4700p
R252 1k :RN
RV251 470
6V REG
R159 22k
C158 100 25V
R158 (5MM)
D131 1JH46
(DC+)
(GND1)
(VCC1)
TO MR BOARD CN120
DC (+)
GND1
VCC1
P CONT
S1
VCC2
50V
15V
6V
GND
-6V

Note: As there are two kinds of ground on this board. be careful when measuring the voltages.


9
10
11
12
13
D201
D8LCA20
+50V
L201
3.3μH
C202
1000
63V
C203
47
63V
C205
1000
63V
L202
3.3μH
C206
47
63V
-50V
R201
50k
:RN
+14V
R205
22k
C207
0.33
:MPS
R220
10k
R203
1k
C220
100
25V
IC202
μPC358C
R202
1.6k
:RN
C221
0.1
R270
2.2k
Q227
2SC2785
R253
1k
IC201
μPC1093J-1
R254
47k
C262
0.01
:MPS
R255
2.2k
R271
1k
+50V
-50V
+15V
L251
3.3μH
+15V
C252
3300
25V
C265
3300
25V
C253
100
25V
C255
3300
25V
C256
100
25V
-15V
D252
D10SC6MR
-15V
L252
3.3μH
D253
D10SBS4
+6V
L253
3.3μH
+6V
C258
3300
10V
C259
100
10V
C257
3300
10V
C260
560
10V
L254
6.8μH
C261
100
10V
-6V
RV251
470
6V REG
VCC2
S1
50V
15.5V
-6V
-15.5V
-50V
D221
1JH46
+15V
+6V
-6V
-15V
15.8
6.0
-6.0
-16.0
-50V
-49.5
CN121
96P
B TO B

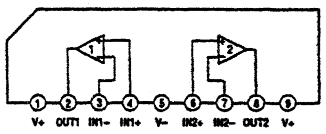
GB BOARD

Function of Semiconductor

D131	1JH46-TPA3	PROTECTOR-1
D201	D8LCA20	+50V RECT
D202	D8LCA20	–50V RECT
D221	1JH46-TPA3	PROTECTOR-2
D251	D10SC6M	115V (HV) RECT
D252	D10SC6MR	–15V RECT
D253	D10SBS4	–6V RECT
IC201	uPC1093J-1-T	REGULATOR
IC202	uPC358C	F.B. AMP
Q101	2SK1567	CONVERTER-1
Q102	2SK1567	CONVERTER-2
Q151	2SK1567	CONVERTER-3
Q152	2SK1567	CONVERTER-4
Q205	2SC2785TP-HFE	OVP. SW-1
Q221	DTA124ESA-TP	OVP. SW-2
Q222	2SC2785TP-HFE	OVP. SW-3
Q223	2SC2785TP-HFE	OVP. SW-4
Q224	2SA1175TP-HFE	OVP. SW-5
Q227	2SC2785TP-HFE	OVP. SW-6

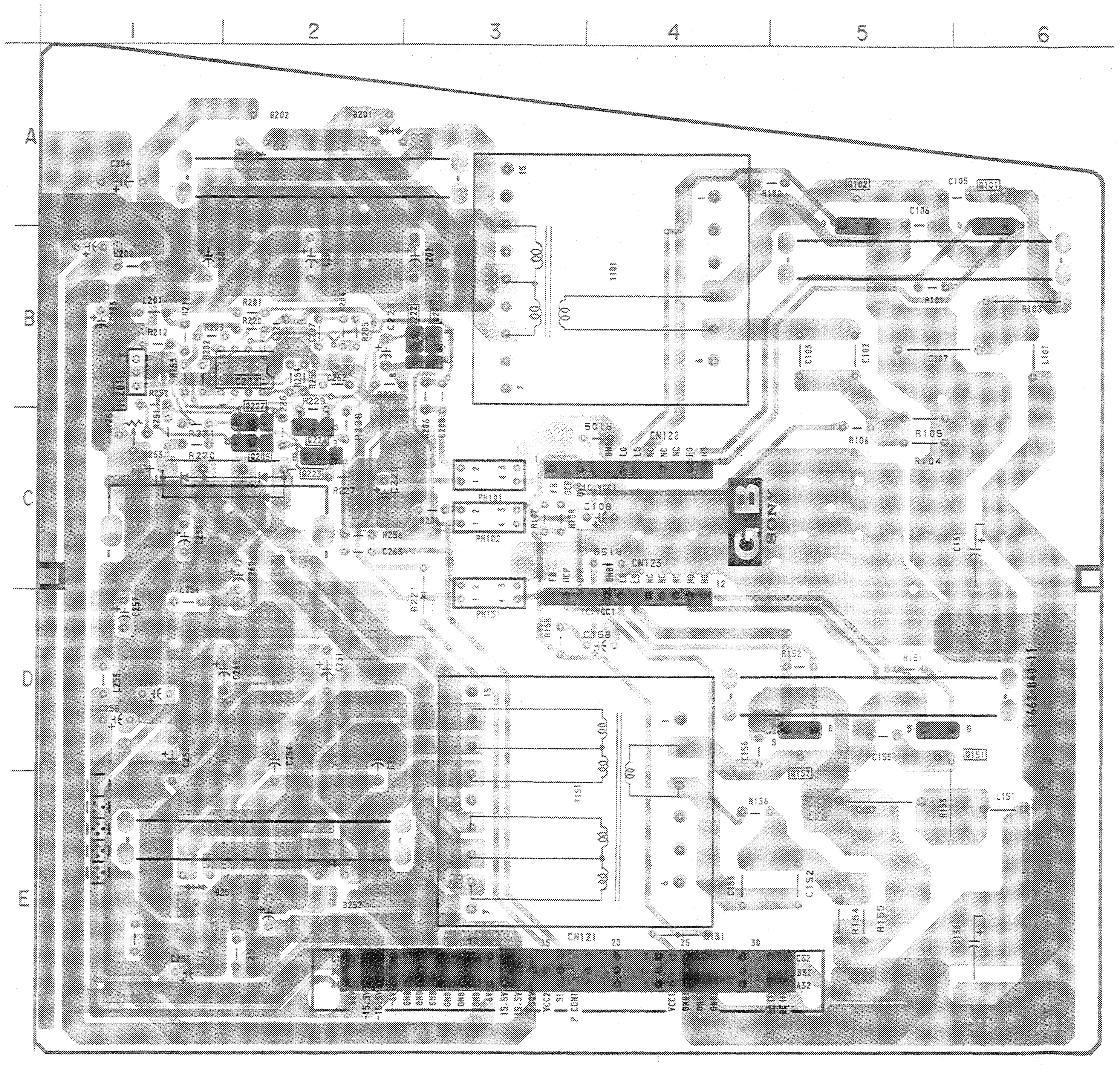
GB BOARD IC Block Diagrams

uPC358C (IC202)


1
2
V+
OUT1
IN1–
IN1+
V–
IN2+
IN2–
OUT2
V+

GB (HIGH VOLTAGE REGULATOR) BOARD

— GB BOARD — <Conductor side>


1
2
3
4
5
6
A
B
C
D
E
T101
T151
CN121
CN122
CN123
PH131
PH132
PH151
IC201
IC202
Q101
Q102
Q151
Q152
GB
SONY
1-662-840-11

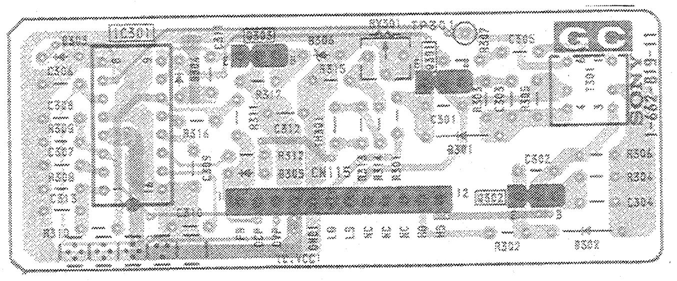
GB BOARD
Semiconductors Location

DIODE	
D131	D-4
D201	A-2
D202	A-2
D221	D-3
D251	E-1
D252	E-2
D253	C-1
IC	
IC201	B-1
IC202	B-2
TRANSISTOR	
Q101	A-6
Q102	A-5
Q151	D-5
Q152	D-5
Q205	C-2
Q221	B-3
Q222	B-3
Q223	C-2
Q224	C-2
Q227	C-2
VARIABLE RESISTOR	
RV251	C-1

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

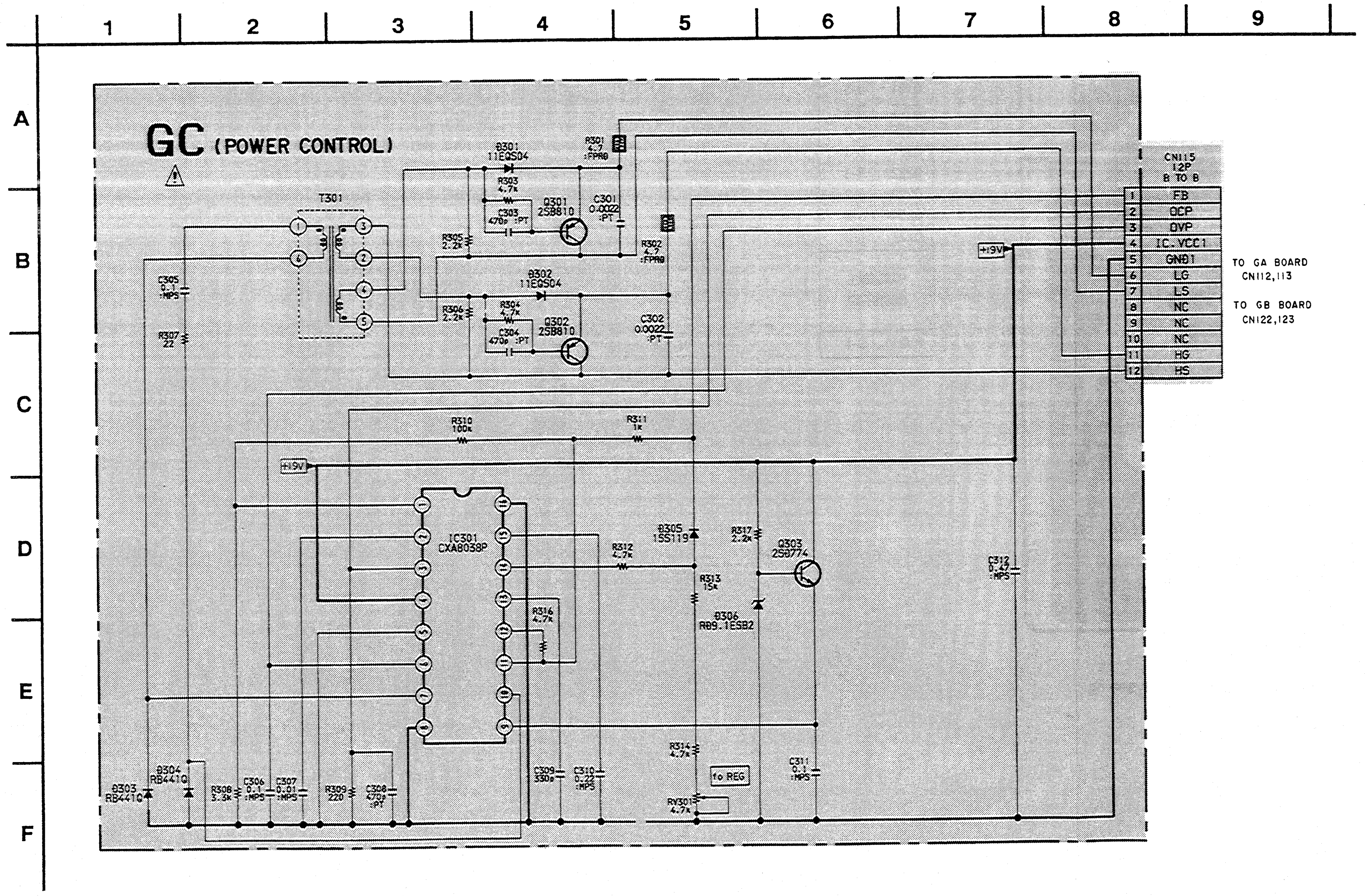
GC (POWER CONTROL) BOARD

— GC BOARD — <Conductor side>


GC
IC301
CN115
SONY
1-662-819-11
T301
RY301
C301
C302
D301
D302
C305
C306
C307
C308
C309
C310
R312
R316
R305
12

- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

• GC (POWER CONTROL) DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
GC (POWER CONTROL)
⚠
T301
D301
11EQS04
R301
4.7
:FPRO
R303
4.7k
C303
470p :PT
Q301
2SB810
C301
0.0022
:PT
R305
2.2k
R302
4.7
:FPRO
D302
11EQS04
R304
4.7k
C304
470p :PT
Q302
2SB810
R306
2.2k
C302
0.0022
:PT
C305
0.1
:MPS
R307
22
CN115
12P
B TO B
1 FB
2 OCP
3 OVP
4 IC.VCC1
5 GND1
6 LG
7 LS
8 NC
9 NC
10 NC
11 HG
12 HS
TO GA BOARD
CN112,113
TO GB BOARD
CN122,123
+19V
R310
100k
R311
1k
IC301
CXA8038P
D305
1SS119
R317
2.2k
Q303
2SD774
R312
4.7k
R313
15k
D306
RD9.1ESB2
R316
4.7k
C312
0.47
:MPS
D303
RB441Q
D304
RB441Q
R308
3.3k
C306
0.1
:MPS
C307
0.01
:MPS
R309
220
C308
470p
:PT
C309
330p
C310
0.22
:MPS
R314
4.7k
fo REG
RY301
4.7k
C311
0.1
:MPS

GC BOARD

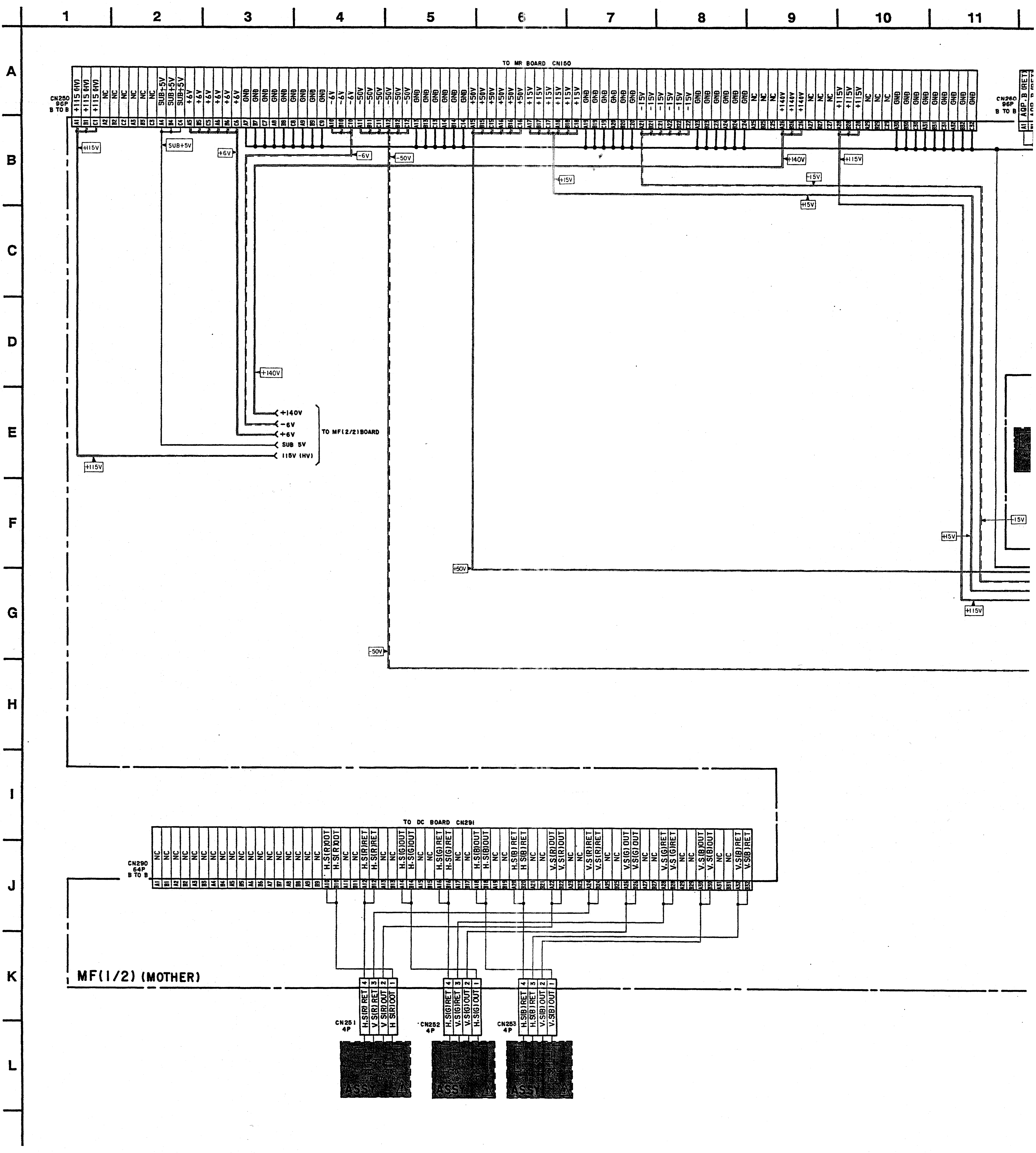
Function of Semiconductor

D301	11EQS04-TA1B	CHARGE-1
D302	11EQS04-TA1B	CHARGE-2
D303	RB441Q-40T-77	LIMITTER-1
D304	RB441Q-40T-77	LIMITTER-2
D305	1SS119-25TD	GATE
D306	RD9.1ES-B2	+9.1V REG
IC301	CXA8038P	POWER CONTROL
Q301	2SB810TP-H	DRIVE-1
Q302	2SB810TP-H	DRIVE-2
Q303	2SD774-T-34	REG OUT

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

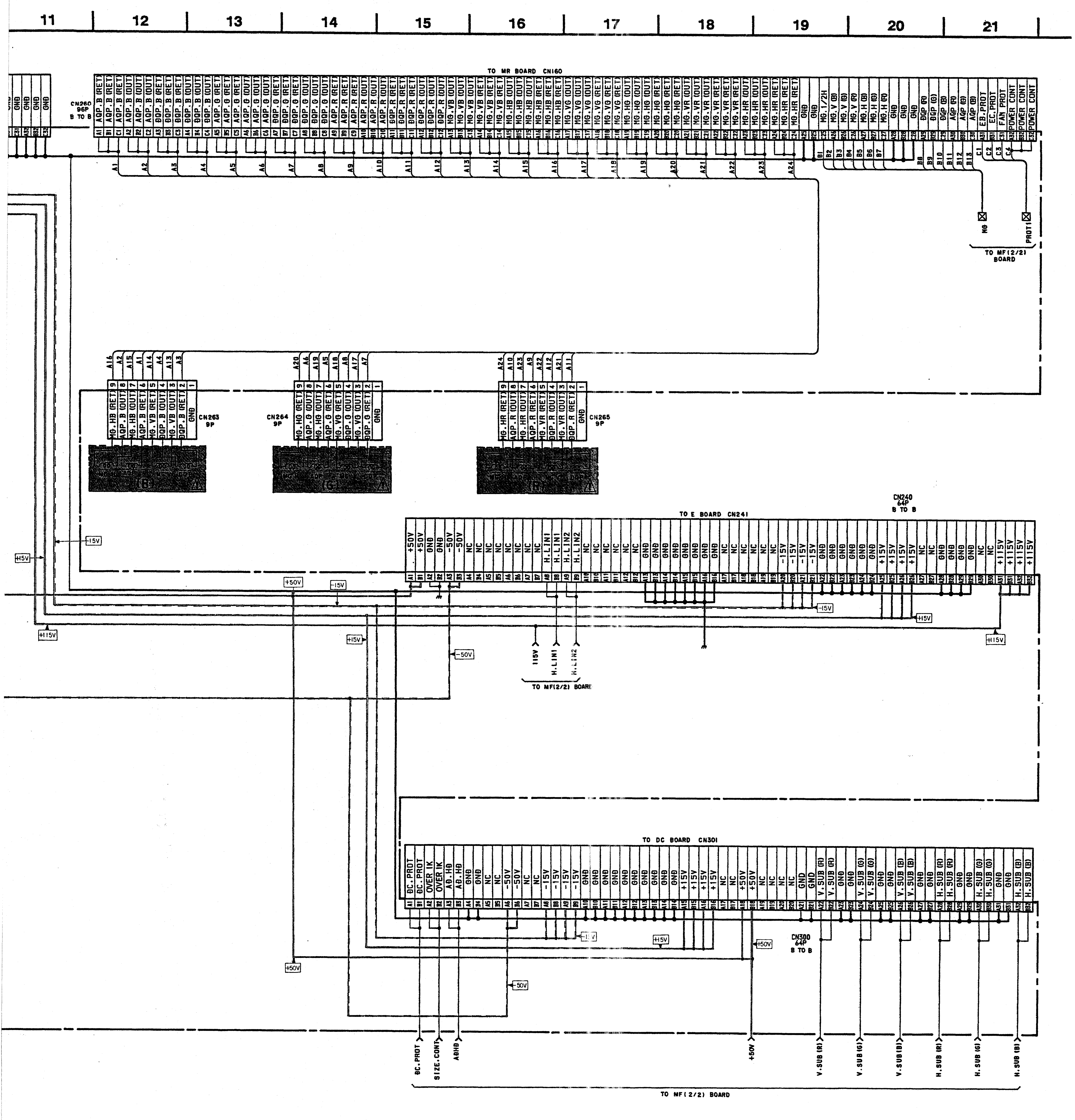
- **MF (1/2) (MOTHER) DIAGRAM**
- Refer to page 4-235 for Printed Wiring Board



TO MR BOARD CN160
CN250 96P B TO B
CN260 96P B TO B
+115V
SUB+5V
+6V
-6V
-50V
+15V
+140V
-15V
+5V
+50V
+140V
-6V
+6V
SUB 5V
115V (HV)
TO MF(2/2)BOARD
TO DC BOARD CN291
CN290 64P B TO B
MF(1/2) (MOTHER)
CN251 4P
CN252 4P
CN253 4P
H.S(R)RET
V.S(R)RET
V.S(R)OUT
H.S(R)OUT
H.S(G)RET
V.S(G)RET
V.S(G)OUT
H.S(G)OUT
H.S(B)RET
H.S(B)RET
V.S(B)OUT
V.S(B)OUT

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

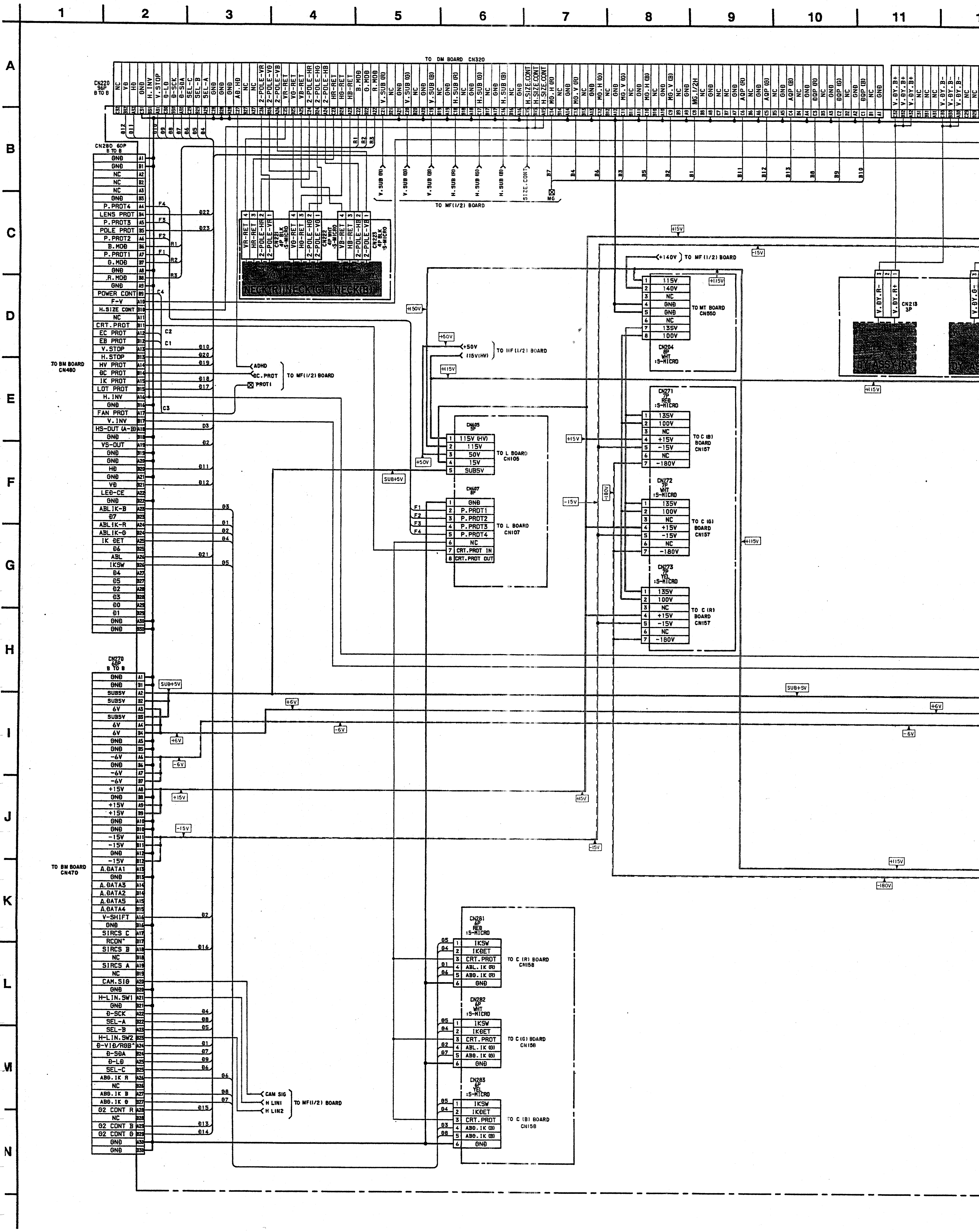


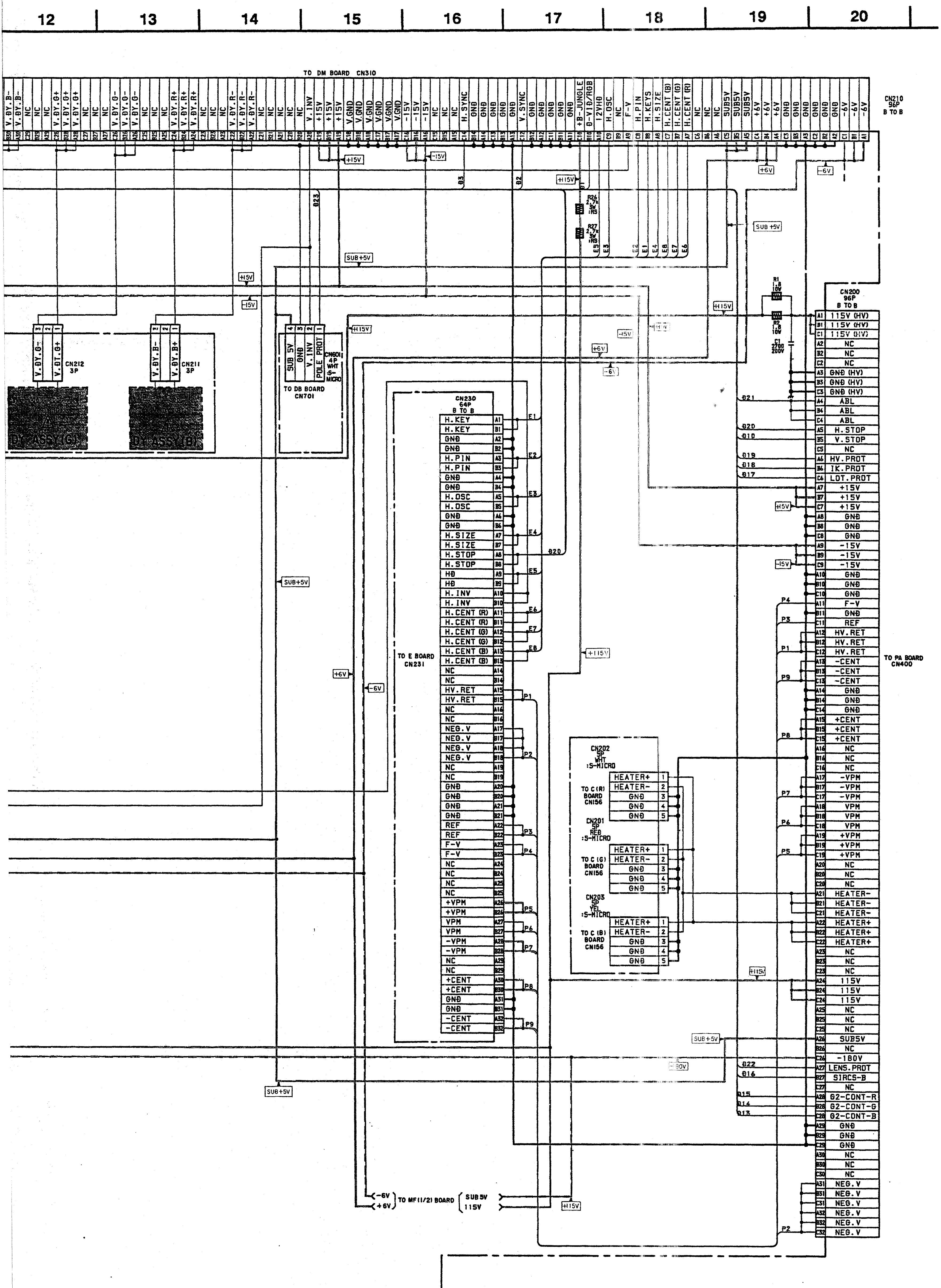
11
12
13
14
15
16
17
18
19
20
21
TO MR BOARD CN160
CN260 96P B TO B
TO MF(2/2) BOARD
CN263 9P
CN264 9P
CN265 9P
TO E BOARD CN241
CN240 64P B TO B
H.LIN1
H.LIN2
115V
TO MF(2/2) BOARD
+50V
-50V
+15V
-15V
+115V
TO DC BOARD CN301
CN300 64P B TO B
BC.PROT
SIZE.CONT
ABHB
V.SUB (R)
V.SUB (G)
V.SUB (B)
H.SUB (R)
H.SUB (G)
H.SUB (B)
TO MF(2/2) BOARD

Schematic Diagram

MF (2/2) board ➡

• MF (2/2) (MOTHER) DIAGRAM


TO DM BOARD CN320
CN220 96P B TO B
CN280 60P B TO B
TO BM BOARD CN480
CN270 60P B TO B
TO BM BOARD CN470
GND
NC
P.PROT4
LENS PROT
P.PROT3
POLE PROT
P.PROT2
B.MOD
P.PROT1
G.MOD
R.MOD
POWER CONT
F-V
H.SIZE CONT
CRT.PROT
EC PROT
EB PROT
V.STOP
H.STOP
HV PROT
DC PROT
IK PROT
LOT PROT
H.INV
FAN PROT
V.INV
HS-OUT (A-B)
VS-OUT
HD
VD
LED-CE
ABLIK-B
ABLIK-R
ABLIK-G
IK DET
ABL
IKSW
SUB5V
6V
-6V
+15V
-15V
A.DATA1
A.DATA2
A.DATA3
A.DATA4
A.DATA5
V-SHIFT
SIRCS C
RCON*
SIRCS B
SIRCS A
CAM.SIG
H-LIN.SW1
H-LIN.SW2
D-SCK
SEL-A
SEL-B
SEL-C
D-VID/RGB*
D-SDA
D-LD
ABG.IK R
ABG.IK B
ABG.IK G
G2 CONT R
G2 CONT B
G2 CONT G
2-POLE-VR
2-POLE-VG
2-POLE-VB
2-POLE-HR
2-POLE-HG
2-POLE-HB
VR-RET
VG-RET
VB-RET
HR-RET
HG-RET
HB-RET
V.SUB (R)
V.SUB (G)
V.SUB (B)
H.SUB (R)
H.SUB (G)
H.SUB (B)
H.SIZE.CONT
MG.H (R)
MG.V (R)
MG.H (G)
MG.V (G)
MG.H (B)
MG.V (B)
MG.I/2H
AQP (R)
AQP (G)
AQP (B)
DQP (R)
DQP (G)
DQP (B)
V.DY.B+
V.DY.B-
TO MF(1/2) BOARD
CN221 4P BLK :S-MICRO
CN222 4P WHT :S-MICRO
CN223 4P BLK :S-MICRO
NECK(R)
NECK(G)
NECK(B)
ADHD
DC.PROT
PROT1
+140V
TO MF(1/2) BOARD
115V
140V
TO MT BOARD CN550
135V
100V
CN204 8P WHT :S-MICRO
+50V
115V(HV)
TO MF(1/2) BOARD
CN271 7P RED :S-MICRO
-180V
TO C (B) BOARD CN157
CN272 7P WHT :S-MICRO
TO C (G) BOARD CN157
CN273 7P YEL :S-MICRO
TO C (R) BOARD CN157
CN605 5P
115V (HV)
50V
15V
SUB5V
TO L BOARD CN105
CN607 8P
P.PROT1
P.PROT2
P.PROT3
P.PROT4
CRT.PROT IN
CRT.PROT OUT
TO L BOARD CN107
SUB+5V
+6V
-6V
+15V
-15V
+115V
-180V
+50V
H50V
H15V
H5V
CN213 3P
V.DY.R-
V.DY.R+
V.DY.G-
DY ASSY (R)
CN281 6P RED :S-MICRO
IKSW
IKDET
CRT.PROT
ABL.IK (R)
ABG.IK (R)
TO C (R) BOARD CN158
CN282 6P WHT :S-MICRO
ABL.IK (G)
ABG.IK (G)
TO C (G) BOARD CN158
CN283 6P YEL :S-MICRO
ABG.IK (B)
TO C (B) BOARD CN158
CAM SIG
H LIN1
H LIN2
TO MF(1/2) BOARD
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N


12
13
14
15
16
17
18
19
20
TO DM BOARD CN310
CN210
96P
B TO B
CN200
96P
B TO B
TO PA BOARD CN400
CN230
64P
B TO B
TO E BOARD CN231
CN212
3P
CN211
3P
CN601
4P
WHT
S-MICRO
TO DB BOARD CN701
DY ASSY (G)
DY ASSY (B)
CN202
5P
WHT
:S-MICRO
TO C (R) BOARD CN156
CN201
5P
RED
:S-MICRO
TO C (G) BOARD CN156
CN203
5P
YEL
:S-MICRO
TO C (B) BOARD CN156
HEATER+
HEATER-
GND
R1
1.8
10W
R2
1.8
10W
C1
2700
200V
R26
2.7
1/4W
:RS
R27
2.7
1/4W
:RS
+15V
-15V
+6V
-6V
SUB+5V
H15V
-180V
-6V
+6V
TO MF (1/2) BOARD
SUB 5V
115V
115V (HV)
GND (HV)
ABL
H.STOP
V.STOP
HV.PROT
IK.PROT
LOT.PROT
F-V
REF
HV.RET
-CENT
+CENT
-VPM
VPM
+VPM
SUB5V
LENS.PROT
SIRCS-B
G2-CONT-R
G2-CONT-G
G2-CONT-B
NEG.V
H.KEY
H.PIN
H.OSC
H.SIZE
HD
H.INV
H.CENT (R)
H.CENT (G)
H.CENT (B)
V.DY.B-
V.DY.G+
V.DY.R+
V.DY.R-
V.INV
V.GND
H.SYNC
V.SYNC
+B-JUNGLE
D-VID/RGB
12VHD
POLE PROT

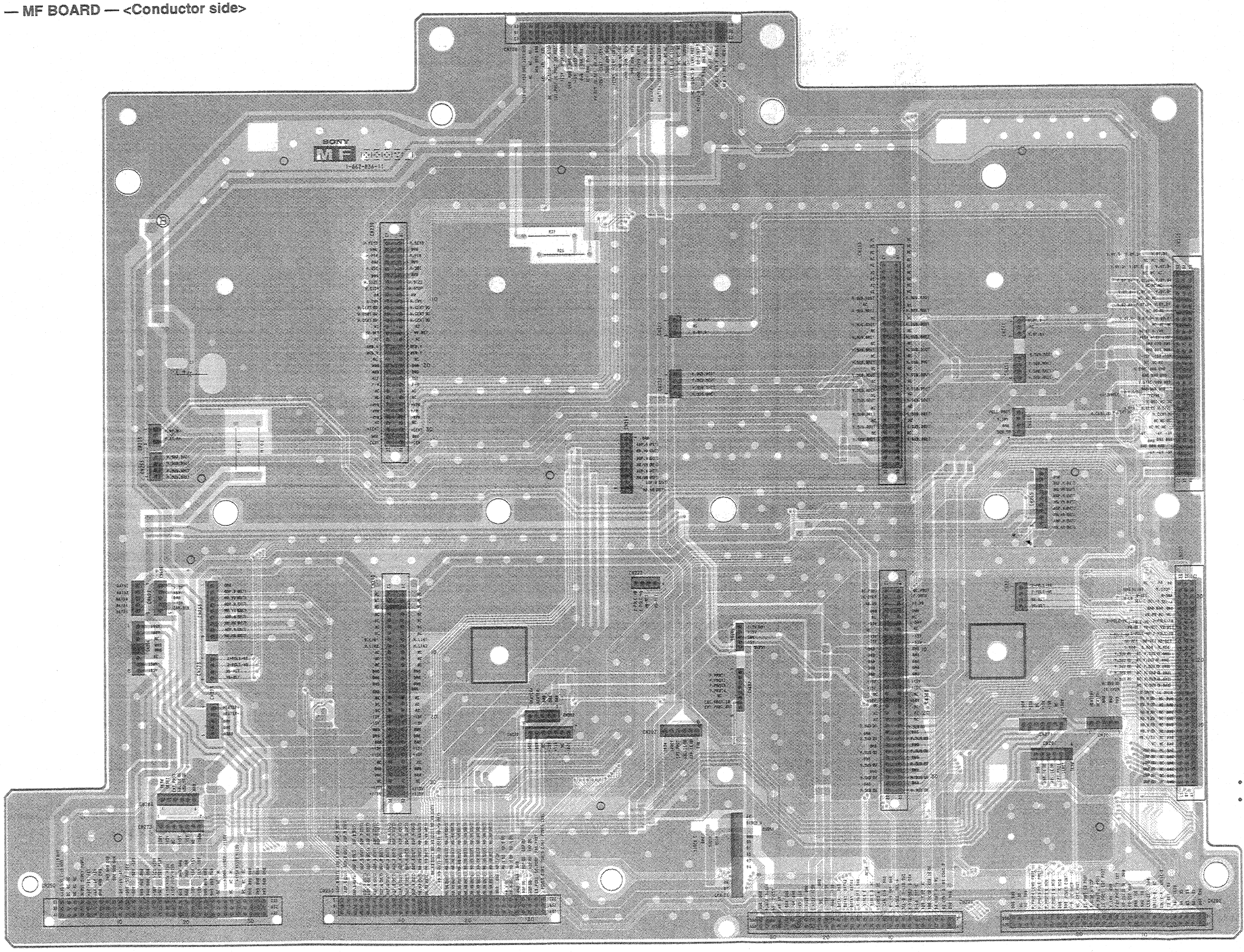
MF (2/2)(MOTHER)

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MF (MOTHER) BOARD

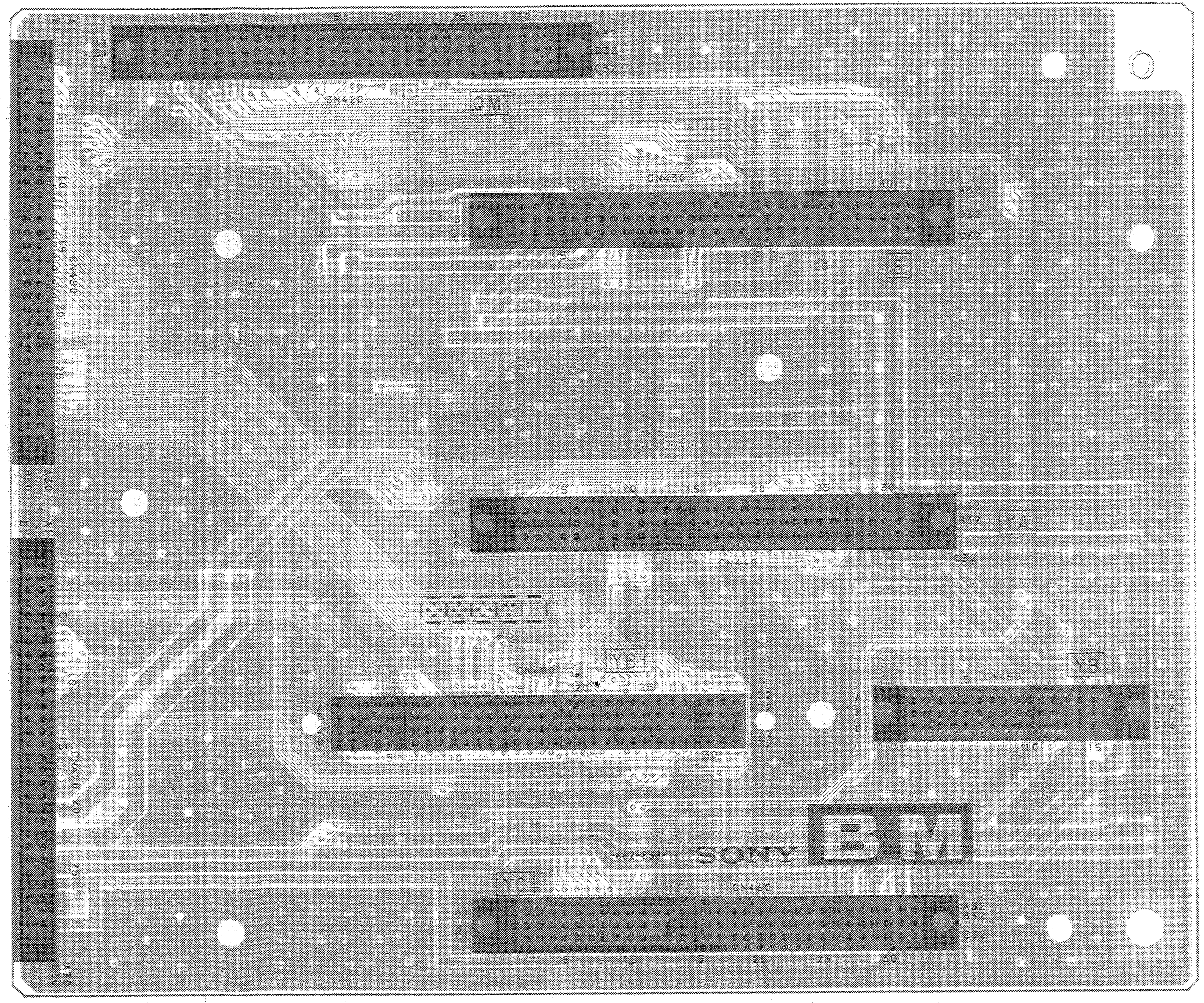
— MF BOARD — <Conductor side>



- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

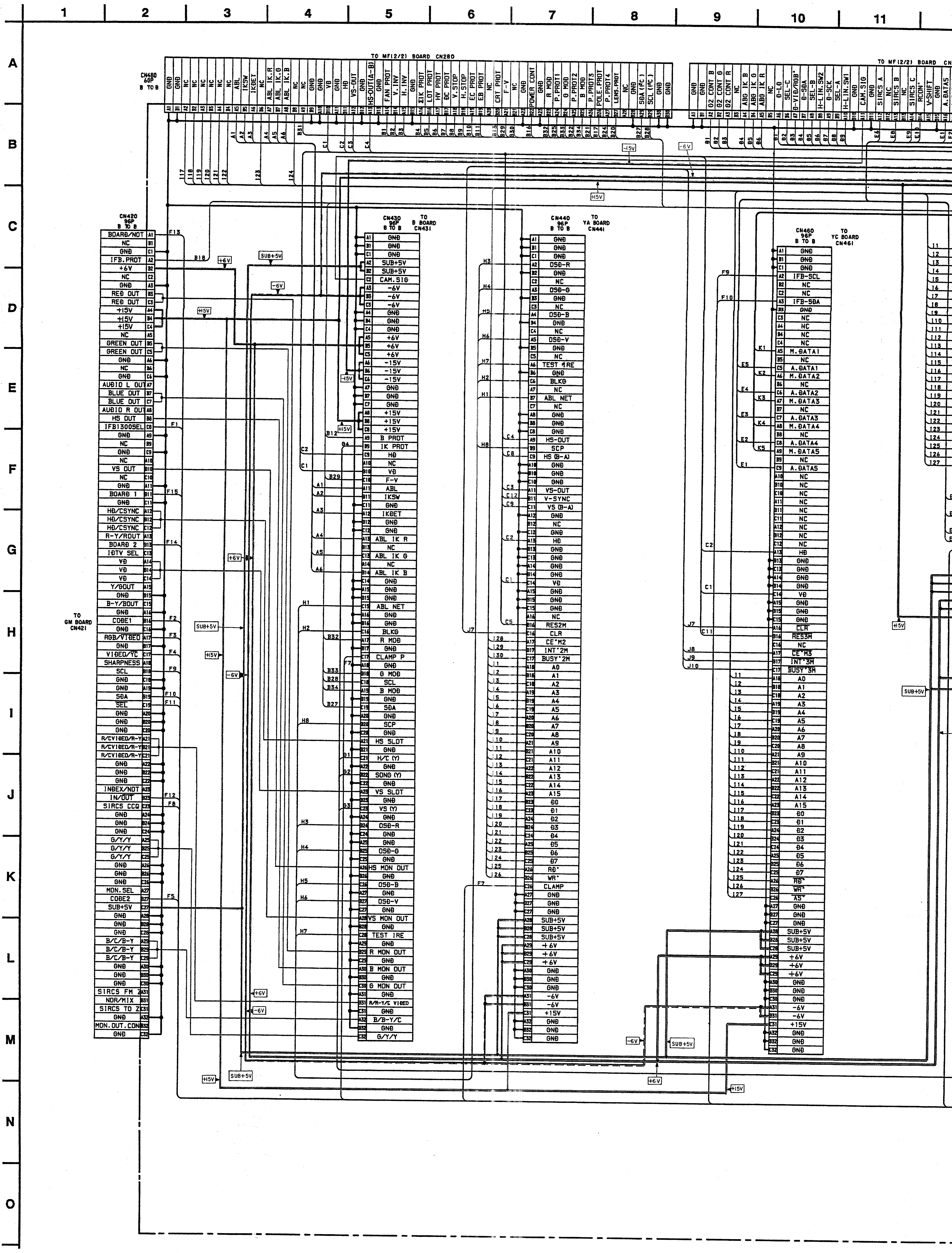
BM (MOTHER) BOARD

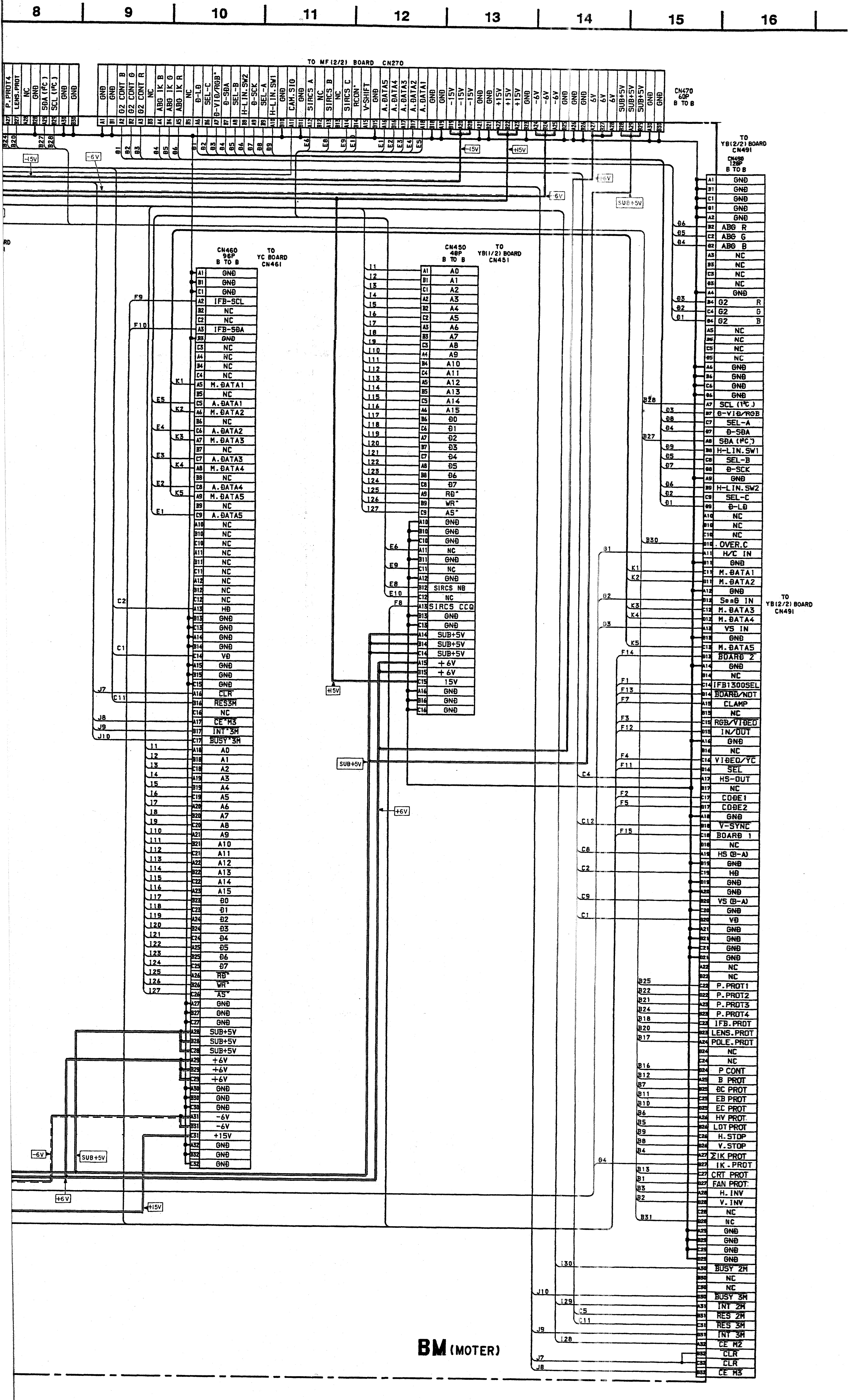
— BM BOARD — <Conductor side>


CN420
QM
CN430
B
CN480
CN440
YA
CN490
YB
CN450
YB
CN470
1-662-858-11
SONY
BM
YC
CN460
A1
B1
C1
A32
B32
C32
A30
B30
A16
B16
C16

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

• BM (MOTHER) DIAGRAM

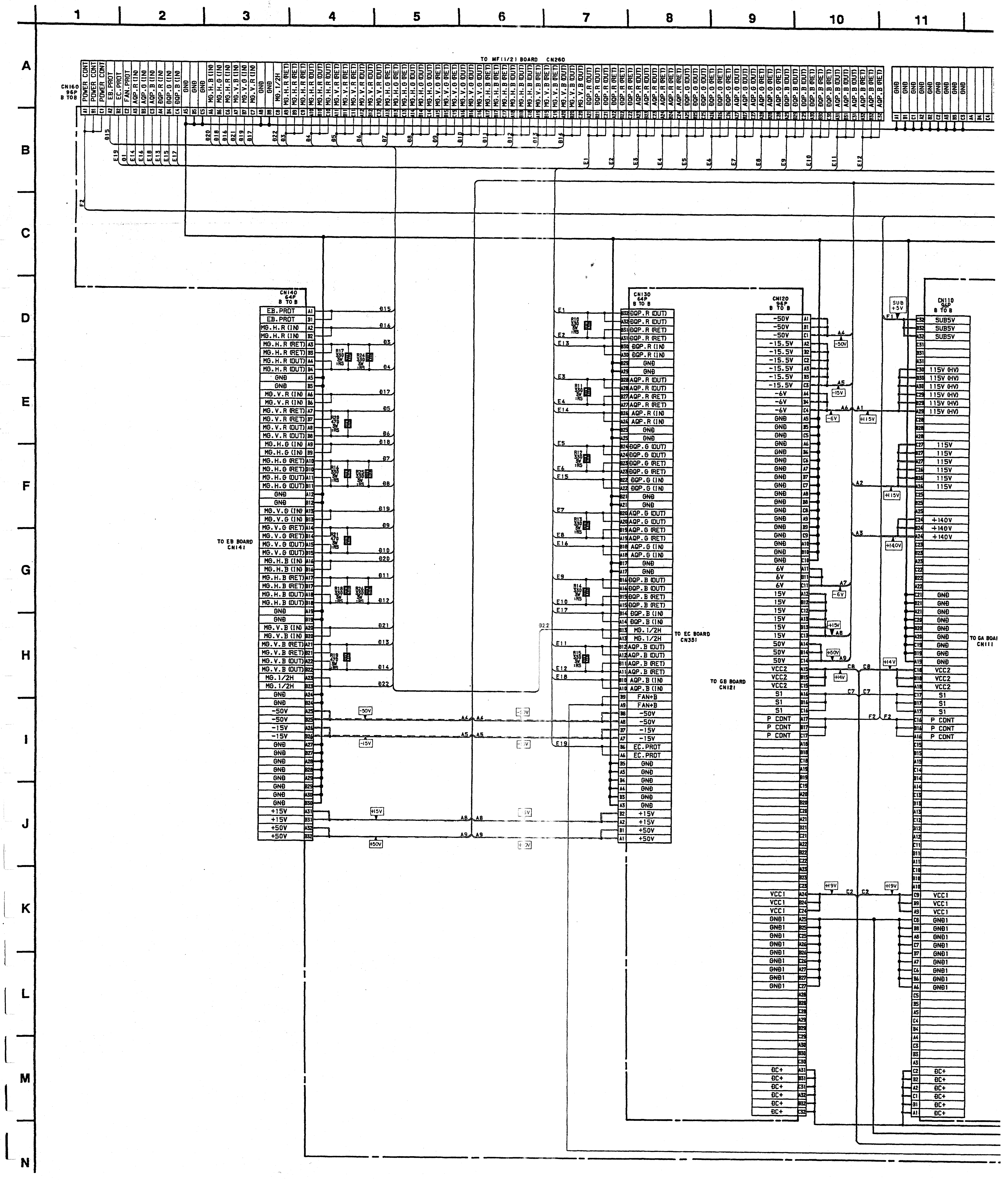

TO MF(2/2) BOARD CN280
TO MF(2/2) BOARD CN
CN480 60P B TO B
CN420 96P B TO B
TO GM BOARD CN421
CN430 96P B TO B
TO B BOARD CN431
CN440 96P B TO B
TO YA BOARD CN441
CN460 96P B TO B
TO YC BOARD CN461
+6V
-6V
+15V
-15V
H5V
SUB+5V


8
9
10
11
12
13
14
15
16
TO MF(2/2) BOARD CN270
CN470 60P B TO B
TO YB(2/2) BOARD CN491
CN480 120P B TO B
CN460 96P B TO B
TO YC BOARD CN461
CN450 48P B TO B
TO YB(1/2) BOARD CN451
TO YB(2/2) BOARD CN491
P.PROT4
LENS.PROT
NC
GND
SDA (I²C)
SCL (I²C)
G2 CONT B
G2 CONT G
G2 CONT R
ABG IK B
ABG IK G
ABG IK R
D-LD
SEL-C
D-VID/RGB*
D-SDA
SEL-B
H-LIN.SW2
D-SCK
SEL-A
H-LIN.SW1
CAM.SIO
SIRCS A
SIRCS B
SIRCS C
RCON*
V-SHIFT
A.DATA5
A.DATA4
A.DATA3
A.DATA2
A.DATA1
-15V
+15V
-6V
6V
SUB+5V
IFB-SCL
IFB-SDA
M.DATA1
M.DATA2
M.DATA3
M.DATA4
M.DATA5
HD
VD
CLR
RES3M
CE*M3
INT*3M
BUSY*3M
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
D0
D1
D2
D3
D4
D5
D6
D7
RD*
WR*
AS*
+6V
SIRCS ND
SIRCS CCQ
15V
ABG R
ABG G
ABG B
G2 R
G2 G
G2 B
OVER.C
H/C IN
S on G IN
VS IN
BOARD 2
IFB1300SEL
BOARD/NOT
CLAMP
RGB/VIDEO
IN/OUT
VIDEO/YC SEL
HS-OUT
CODE1
CODE2
V-SYNC
BOARD 1
HS (B-A)
VS (B-A)
P.PROT1
P.PROT2
P.PROT3
IFB.PROT
POLE.PROT
P CONT
B PROT
BC PROT
EB PROT
EC PROT
HV PROT
LOT PROT
H.STOP
V.STOP
ΣIK PROT
IK.PROT
CRT PROT
FAN PROT
H.INV
V.INV
BUSY 2M
BUSY 3M
INT 2M
RES 2M
RES 3M
INT 3M
CE M2
CE M3
BM (MOTER)

Schematic Diagram

MR board ➡

• MR (MOTHER) DIAGRAM

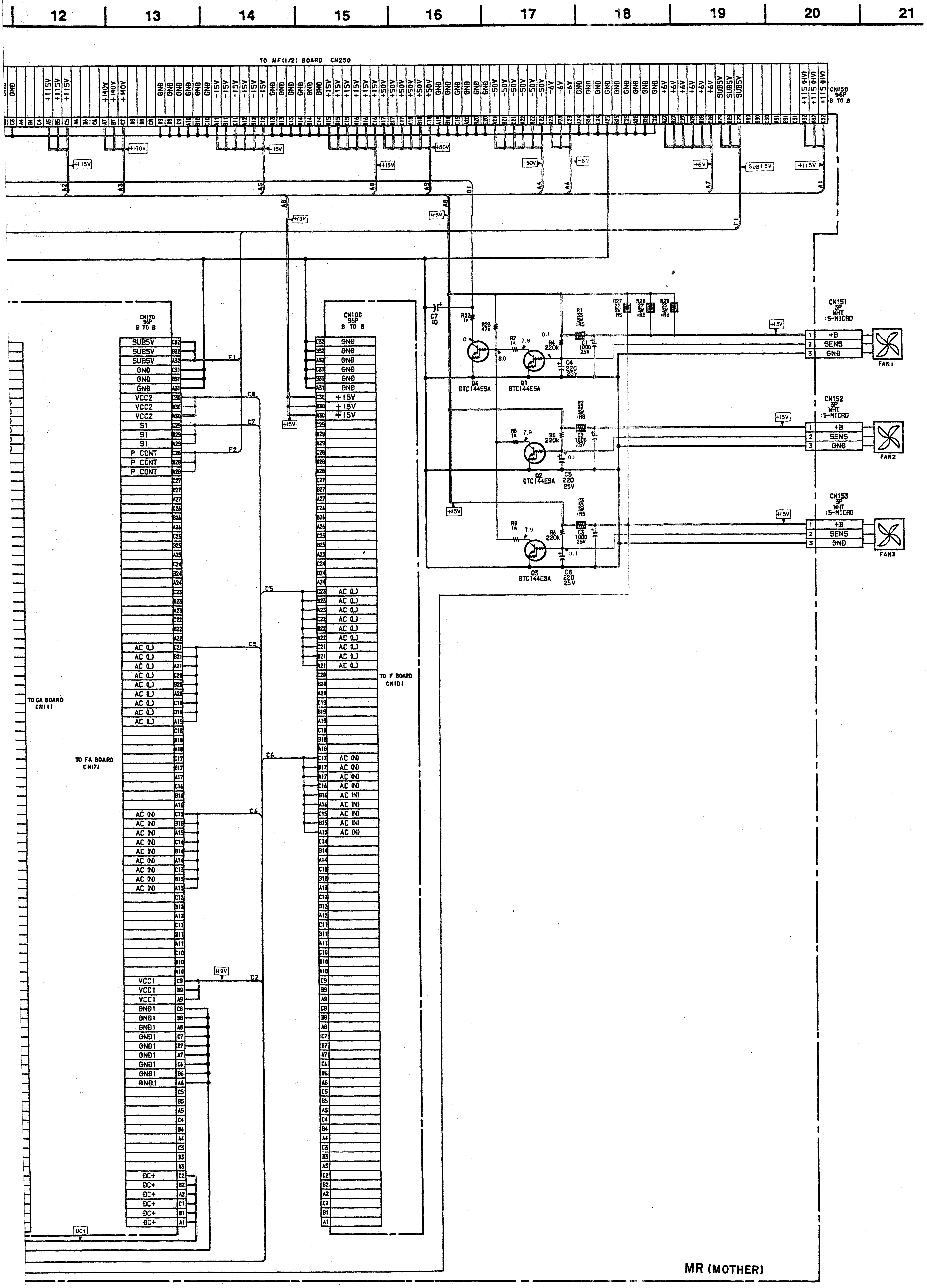


TO MF(1/2) BOARD CN260
CN160 96P B TO B
CN140 64P B TO B
TO EB BOARD CN141
CN130 64P B TO B
TO EC BOARD CN351
CN120 96P B TO B
TO GB BOARD CN121
CN110 96P B TO B
TO GA BOARD CN111
SUB +5V
-50V
-15V
-6V
+15V
+50V
+115V
+140V
+14V
+19V
POWER CONT
EB.PROT
EC.PROT
FAN.PROT
MG.1/2H
FAN+B
SUBSV
115V (HV)
VCC1
VCC2
GND1
DC+
P CONT

MR BOARD

Function of Semiconductor

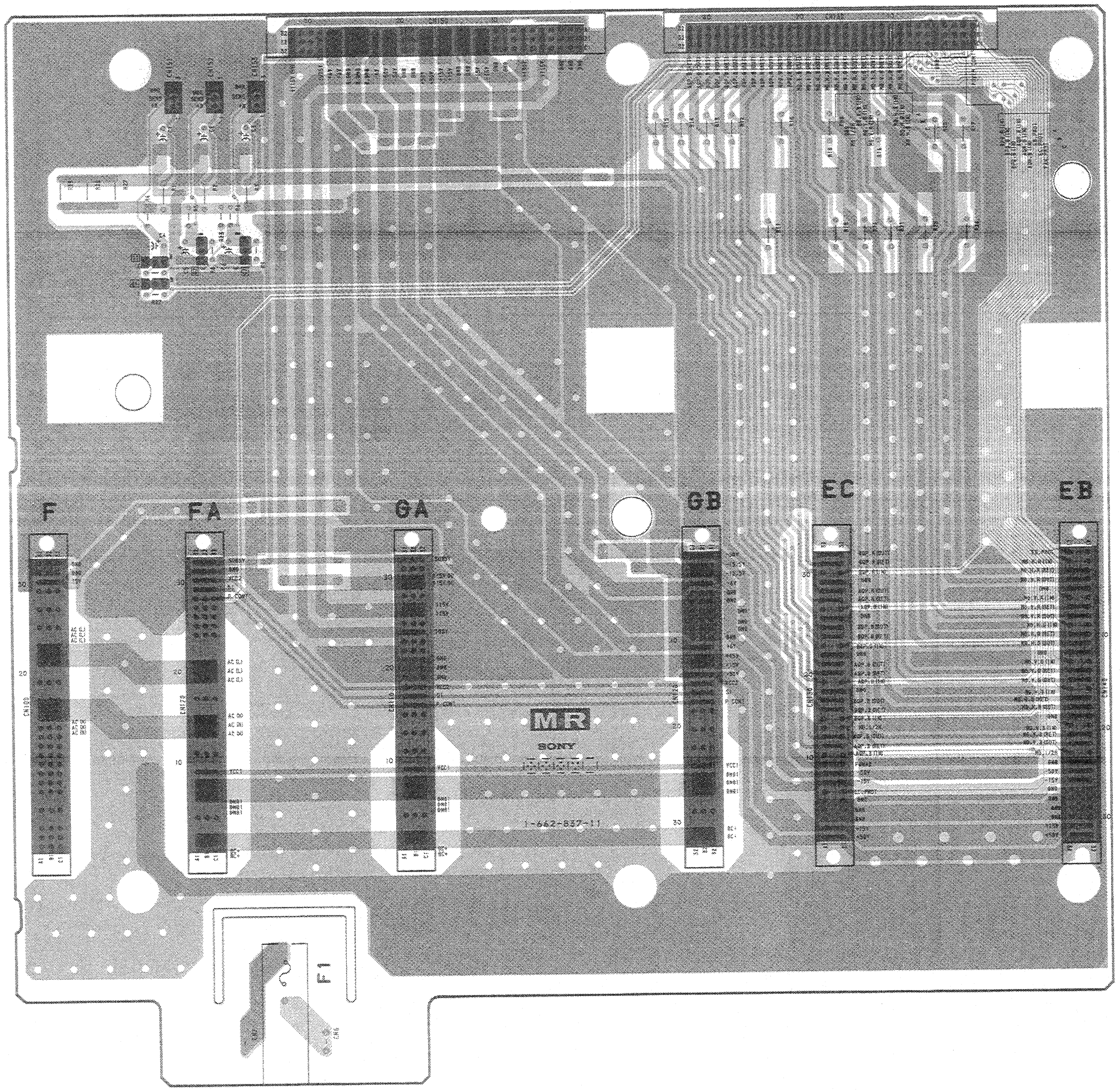
Q1	DTC144ESA	FAN PROT SW-1
Q2	DTC144ESA	FAN PROT SW-2
Q3	DTC144ESA	FAN PROT SW-3
Q4	DTC144ESA	FAN PROT SW-4



12
13
14
15
16
17
18
19
20
21
TO MF(1/2) BOARD CN250
CN150 96P B TO B
+115V
+140V
GND
-15V
+15V
+50V
-50V
-6V
+6V
SUBSV
+115 (HV)
SUB+5V
CN170 96P B TO B
SUBSV
VCC2
S1
P CONT
AC (L)
AC (N)
VCC1
GND1
DC+
TO GA BOARD CN111
TO FA BOARD CN171
CN100 96P B TO B
TO F BOARD CN101
+9V
C7 10
R22 1k
R23 47k
Q4 DTC144ESA
Q1 DTC144ESA
Q2 DTC144ESA
Q3 DTC144ESA
R7 1k
R8 1k
R9 1k
R4 220k
R5 220k
R6 220k
C1 1000 25V
C2 1000 25V
C3 1000 25V
C4 220 25V
C5 220 25V
C6 220 25V
R1 33 3W :RS
R2 33 3W :RS
R3 33 3W :RS
R27 27 5W :RS
R28 27 5W :RS
R29 27 5W :RS
CN151 3P WHT :S-MICRO
CN152 3P WHT :S-MICRO
CN153 3P WHT :S-MICRO
+B
SENS
GND
FAN1
FAN2
FAN3
MR (MOTHER)

MR (MOTHER) BOARD

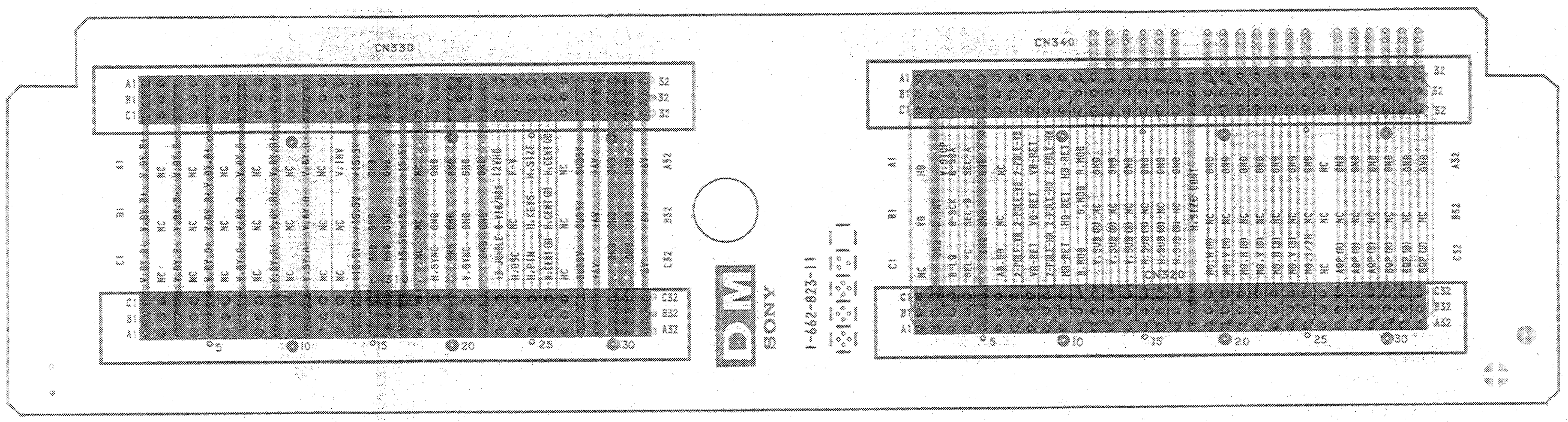
— MR BOARD — <Conductor side>


F
FA
GA
GB
EC
EB
F1
MR
SONY
1-662-837-11

- ░ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

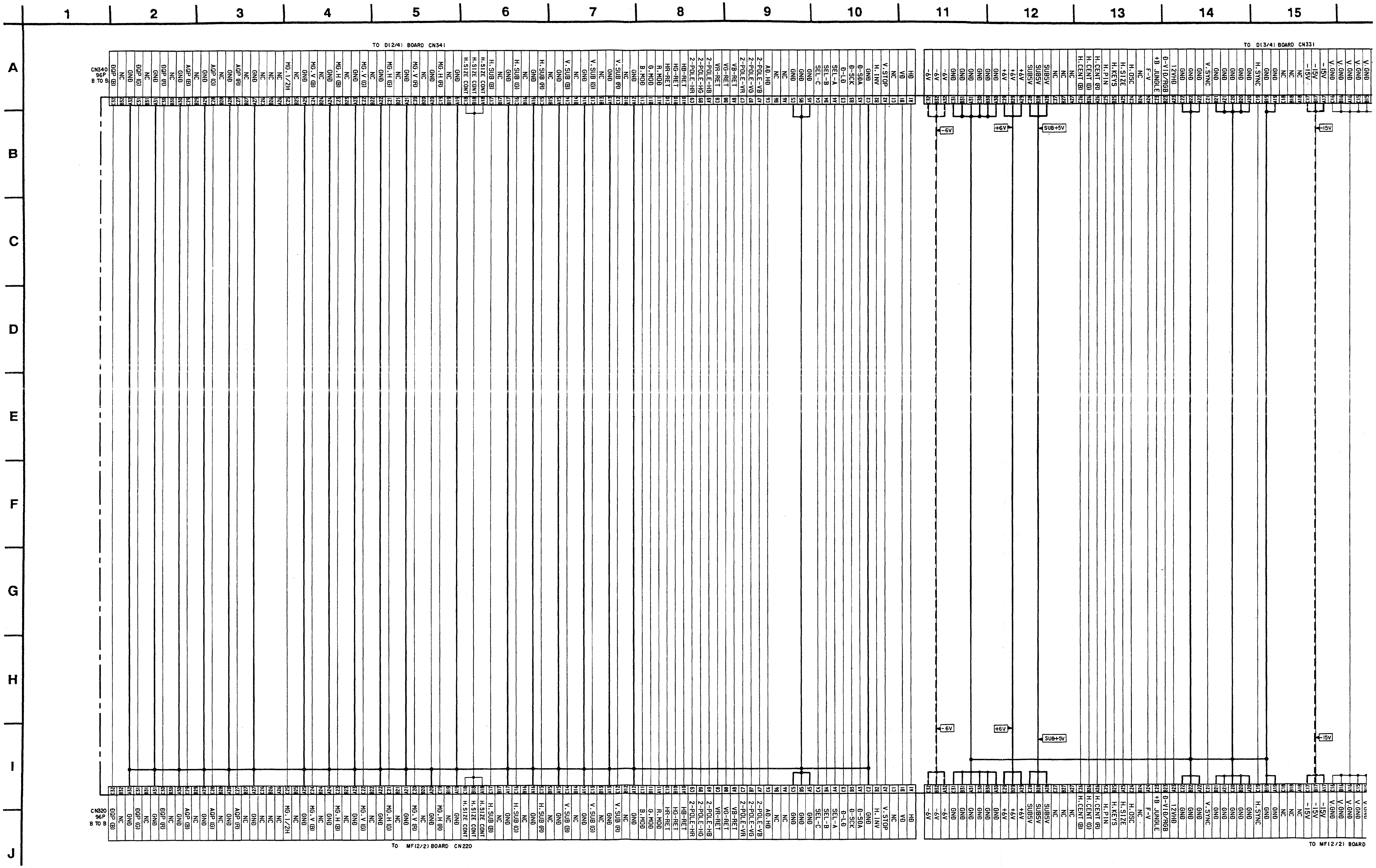
DM (MOTHER) BOARD

— DM BOARD — <Conductor side>


CN330
CN310
CN340
DM
SONY
1-662-823-11

- ▒ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

• DM (MOTHER) DIAGRAM


1
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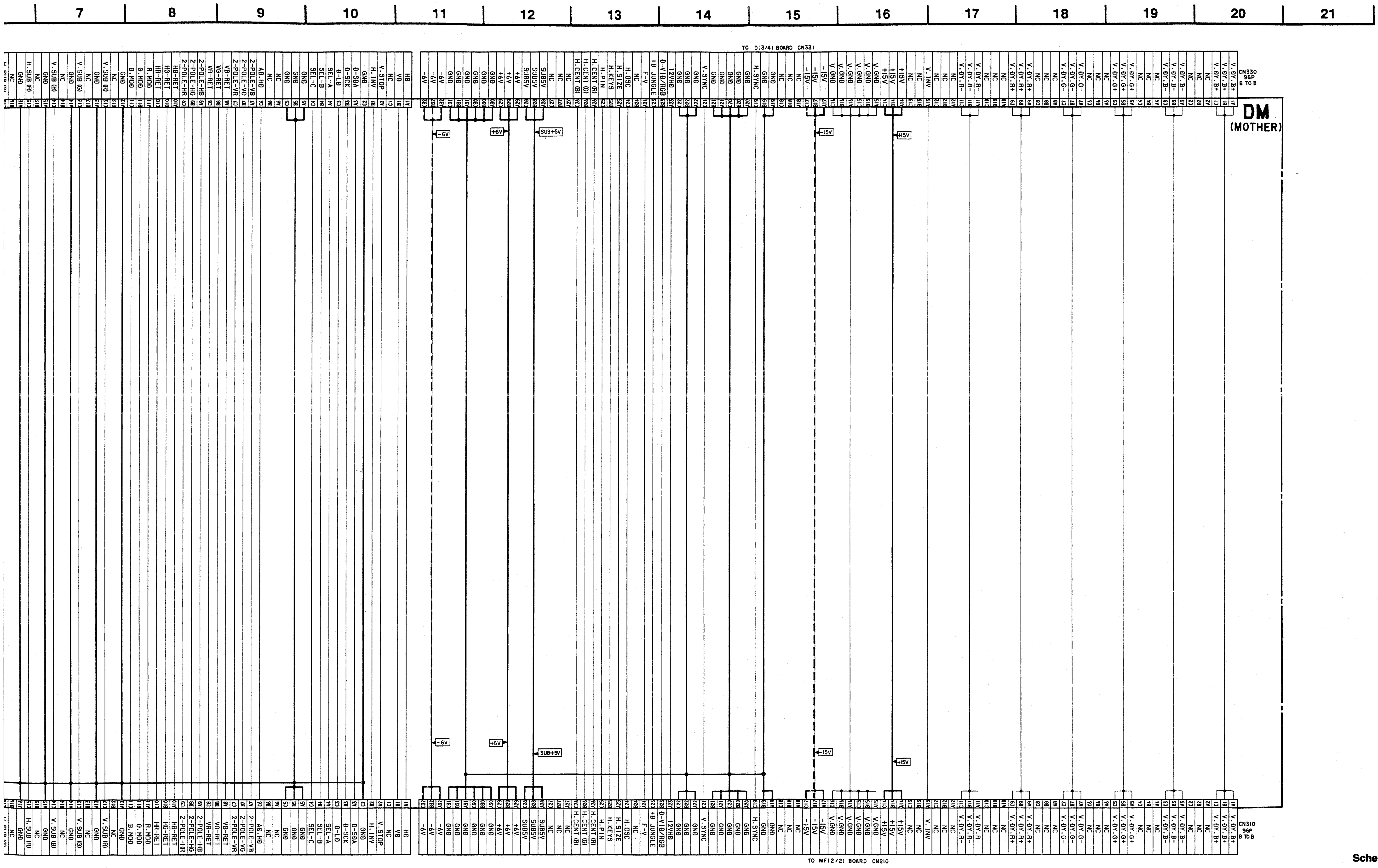
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
TO D(2/4) BOARD CN341
CN340
96P
B TO B
DQP (B)
NC
GND
DQP (G)
NC
GND
DQP (R)
NC
GND
AQP (B)
NC
GND
AQP (G)
NC
GND
AQP (R)
NC
GND
NC
NC
NC
MG.1/2H
NC
GND
MG.V (B)
NC
GND
MG.H (B)
NC
GND
MG.V (G)
NC
GND
MG.H (G)
NC
GND
MG.V (R)
NC
GND
MG.H (R)
NC
GND
H.SIZE CONT
H.SIZE CONT
H.SIZE CONT
H.SUB (B)
NC
GND
H.SUB (G)
NC
GND
H.SUB (R)
NC
GND
V.SUB (B)
NC
GND
V.SUB (G)
NC
GND
V.SUB (R)
NC
GND
B.MOD
G.MOD
R.MOD
HR-RET
HG-RET
HB-RET
2-POLE-HR
2-POLE-HG
2-POLE-HB
VR-RET
VG-RET
VB-RET
2-POLE-VR
2-POLE-VG
2-POLE-VB
AD.HD
NC
NC
GND
GND
GND
SEL-C
SEL-B
SEL-A
D-LD
D-SCK
D-SDA
GND
H.INV
V.STOP
NC
VD
HD
TO D(3/4) BOARD CN331
-6V
-6V
-6V
GND
GND
GND
GND
GND
GND
+6V
+6V
+6V
SUB5V
SUB5V
SUB5V
NC
NC
NC
H.CENT (B)
H.CENT (G)
H.CENT (R)
H.PIN
H.KEYS
H.SIZE
H.OSC
NC
F-V
+B JUNGLE
D-VID/RGB
12VHD
GND
GND
GND
V.SYNC
GND
GND
GND
GND
GND
H.SYNC
GND
GND
NC
NC
NC
-15V
-15V
-15V
V.GND
V.GND
V.GND
V.GND
V.GND
-6V
+6V
SUB+5V
-15V
-6V
+6V
SUB+5V
-15V
CN320
96P
B TO B
TO MF(2/2) BOARD CN220
TO MF(2/2) BOARD

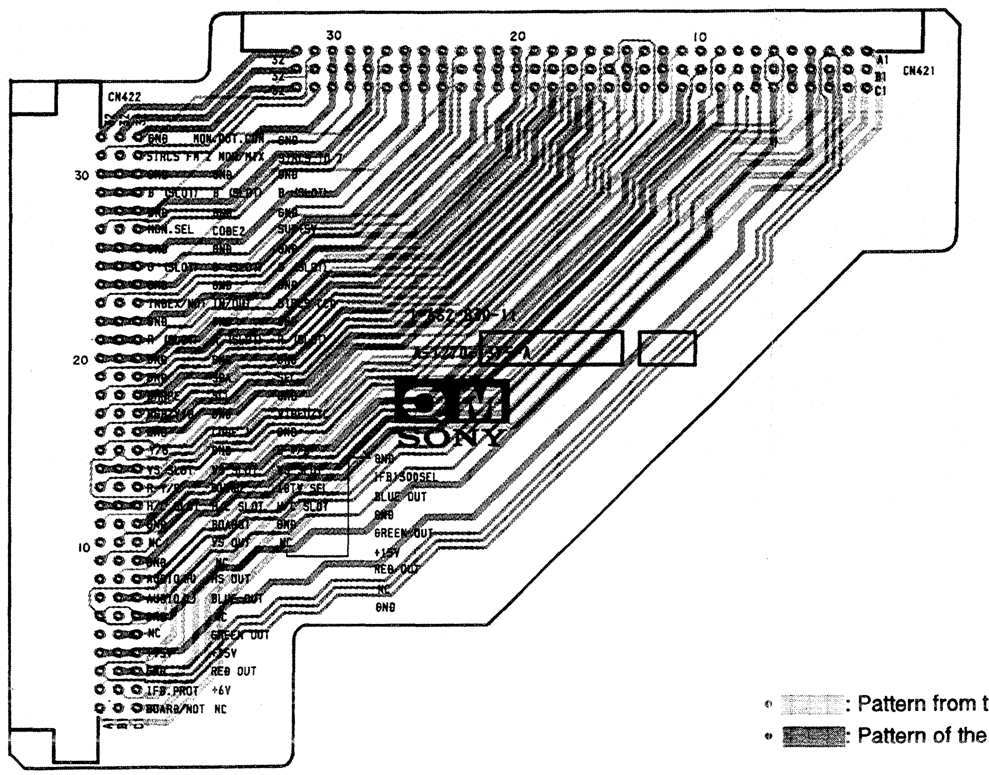

7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
TO D(3/4) BOARD CN331
CN330 96P B TO B
DM (MOTHER)
-6V
+6V
SUB+5V
-15V
+15V
CN310 96P B TO B
TO MF(2/2) BOARD CN210

Schematic Diagram

QM board ➡

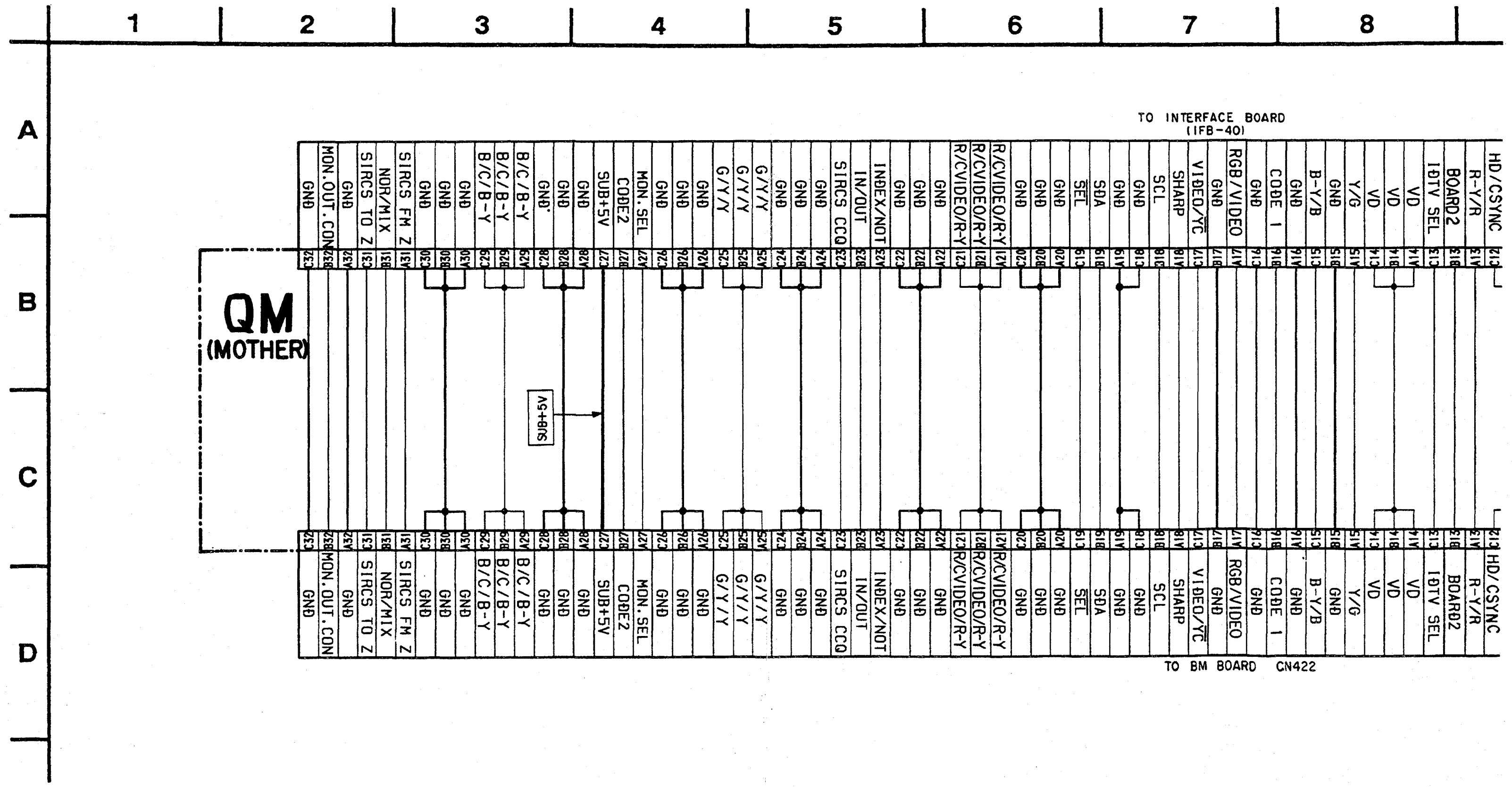
QM (RELAY) BOARD

— QM BOARD — <Conductor side>


30
20
10
CN421
CN422
A1
B1
C1
30
20
10
QM
SONY

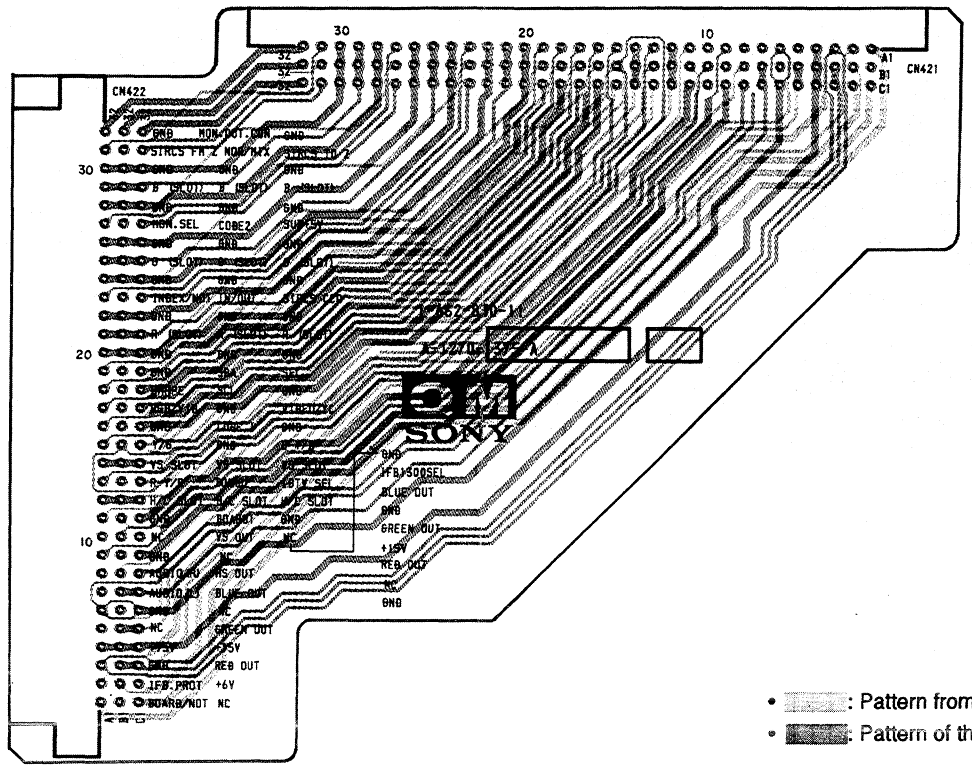
- ▒: Pattern from the side which enables seeing.
- ▓: Pattern of the rear side.

• QM (RELAY) DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
TO INTERFACE BOARD (IFB-40)
QM (MOTHER)
SUB+5V
TO BM BOARD CN422
GND
MON.OUT.CON
SIRCS TO Z
NOR/MIX
SIRCS FM Z
B/C/B-Y
CODE2
MON.SEL
G/Y/Y
SIRCS CCQ
IN/OUT
INDEX/NOT
R/CVIDEO/R-Y
SEL
SDA
SCL
SHARP
VIDEO/YC
RGB/VIDEO
CODE 1
B-Y/B
Y/G
VD
1070V SEL
BOARD2
R-Y/R
HD/CSYNC

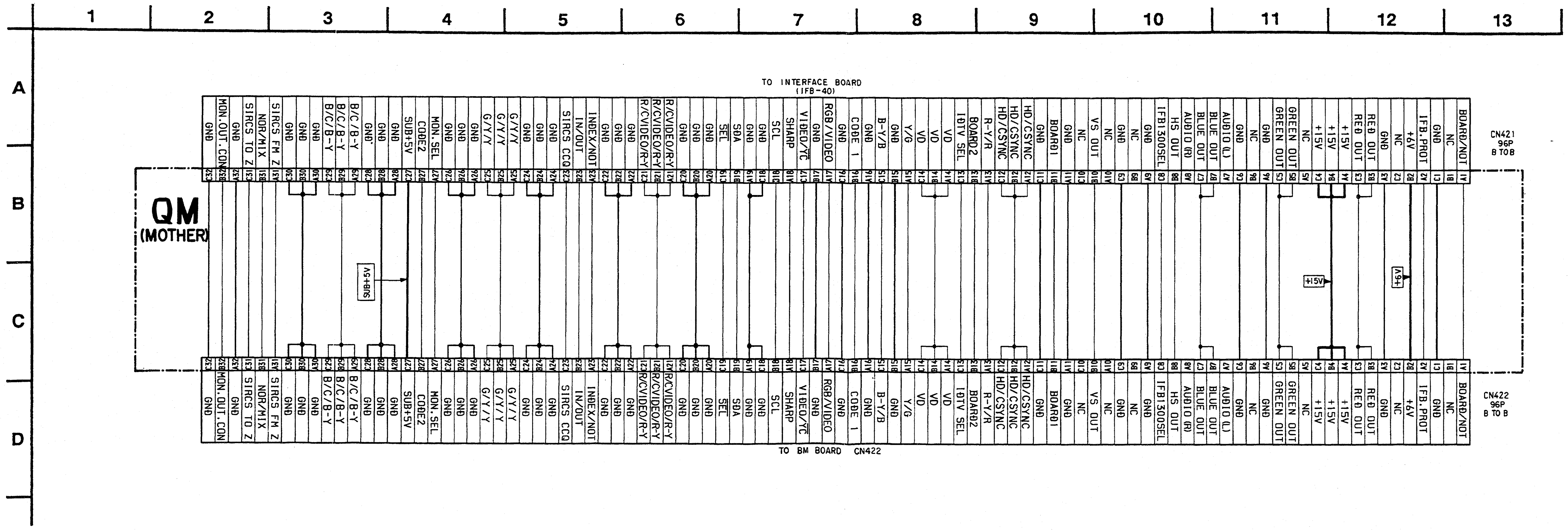
QM (RELAY) BOARD

— QM BOARD — <Conductor side>


CN421
CN422
30
20
10
A1
B1
C1
1-662-830-11
QM
SONY

- ░ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

• QM (RELAY) DIAGRAM


1
2
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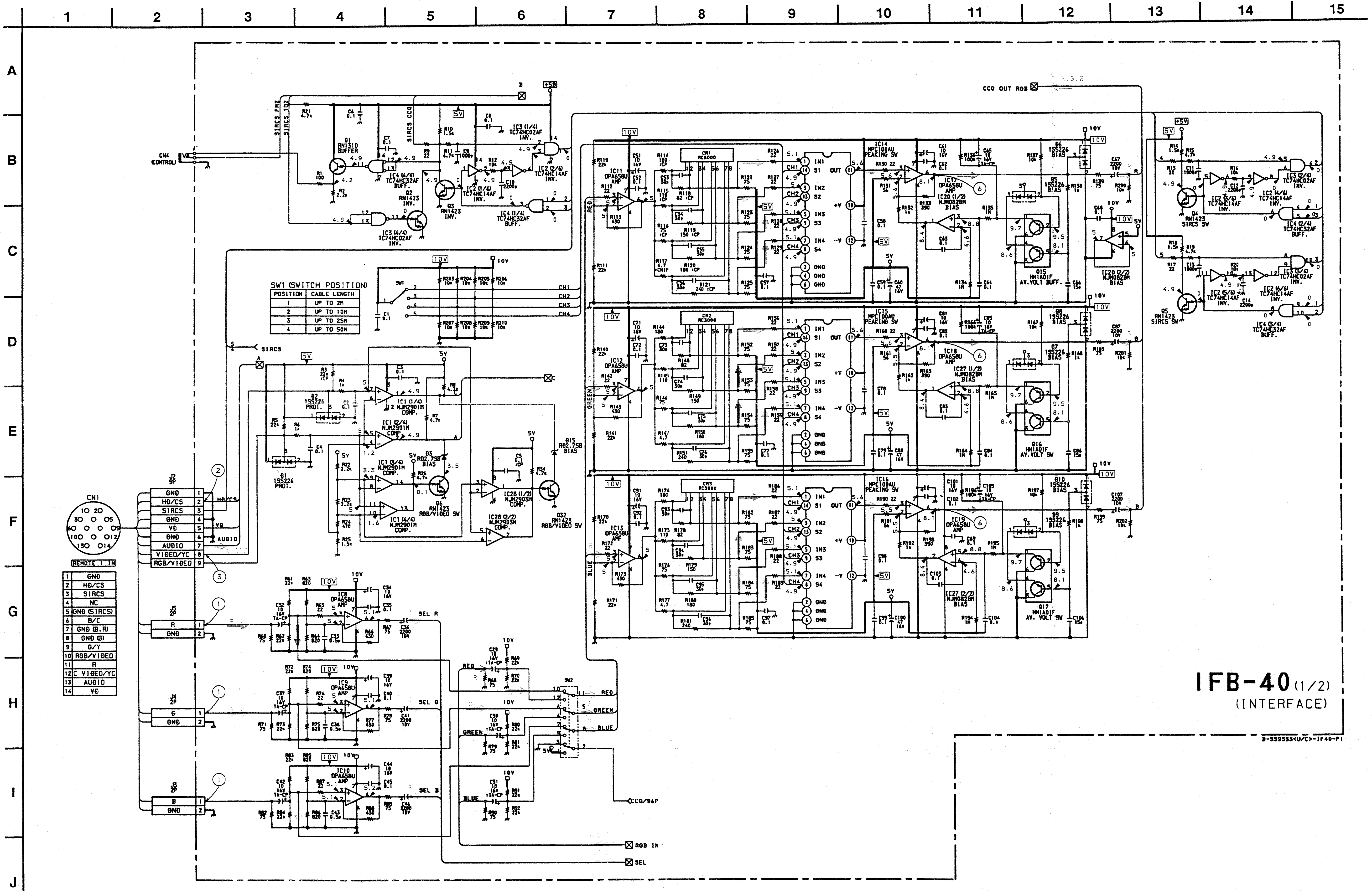
6
7
8
9
10
11
12
13
A
B
C
D
TO INTERFACE BOARD (IFB-40)
CN421 96P B TO B
QM (MOTHER)
SUB+5V
+15V
+6V
CN422 96P B TO B
TO BM BOARD CN422

- **IFB-40 (1/2) (INTERFACE) DIAGRAM**
- Refer to page 4-259 for Printed Wiring Board
- Refer to page 4-261 for Waveforms
- Refer to page 4-261 for IC Block Diagram


1
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7
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9
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11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
CN4 CONTROL
SIRCS FMZ
SIRCS IOZ
SIRCS CCQ
Q1 RN1310 BUFFER
IC4 (4/4) TC74HC32AF BUFF.
Q2 RN1423 INV.
Q3 RN1423 INV.
IC3 (4/4) TC74HC02AF INV.
IC3 (1/4) TC74HC02AF INV.
IC2 (1/6) TC74HC14AF INV.
IC2 (2/6) TC74HC14AF INV.
IC4 (1/4) TC74HC32AF BUFF.
+5V
5V
10V
SW1
CH1
CH2
CH3
CH4
SIRCS
IC1 (1/4) NJM2901M COMP.
IC1 (2/4) NJM2901M COMP.
IC1 (3/4) NJM2901M COMP.
IC1 (4/4) NJM2901M COMP.
D1 1SS226 PROT.
D2 1SS226 PROT.
D3 RD2.7SB BIAS
Q6 RN1423 RGB/VIDEO SW
IC28 (1/2) NJM2903M COMP.
IC28 (2/2) NJM2903M COMP.
D15 RD2.7SB BIAS
Q32 RN1423 RGB/VIDEO SW
CN1
REMOTE 1 IN
J2 9P
GND
HD/CS
SIRCS
GND
VD
GND
AUDIO
VIDEO/YC
RGB/VIDEO
J5 2P
J4 2P
J3 2P
R
G
B
GND
IC8 OPA658U AMP
IC9 OPA658U AMP
IC10 OPA658U AMP
SEL R
SEL G
SEL B
SW2
RED
GREEN
BLUE
CCQ/96P
RGB IN
SEL
CCQ OUT RGB
IC11 OPA658U AMP
IC12 OPA658U AMP
IC13 OPA658U AMP
CR1 RC3000
CR2 RC3000
CR3 RC3000
IC14 MPC100AU PEAKING SW
IC15 MPC100AU PEAKING SW
IC16 MPC100AU PEAKING SW
IN1 S1 OUT IN2 S2 +V IN3 S3 IN4 S4 -V GND
IC17 OPA658U AMP
IC18 OPA658U AMP
IC19 OPA658U AMP
IC20 (1/2) NJM082BM BIAS
IC20 (2/2) NJM082BM BIAS
IC27 (1/2) NJM082BM BIAS
IC27 (2/2) NJM082BM BIAS
D4 1SS226 BIAS
D5 1SS226 BIAS
D7 1SS226 BIAS
D8 1SS226 BIAS
D9 1SS226 BIAS
D10 1SS226 BIAS
Q15 HN1A01F AV.VOLT BUFF.
Q16 HN1A01F AV.VOLT SW
Q17 HN1A01F AV. VOLT SW
Q4 RN1423 SIRCS SW
Q5 RN1423 SIRCS SW
IC2 (3/6) TC74HC14AF INV.
IC2 (4/6) TC74HC14AF INV.
IC2 (5/6) TC74HC14AF INV.
IC2 (6/6) TC74HC14AF INV.
IC3 (2/4) TC74HC02AF INV.
IC3 (3/4) TC74HC02AF INV.
IC4 (2/4) TC74HC32AF BUFF.
IC4 (3/4) TC74HC32AF BUFF.
RED
GREEN
BLUE

SW1 (SWITCH POSITION)

POSITION	CABLE LENGTH
1	UP TO 2M
2	UP TO 10M
3	UP TO 25M
4	UP TO 50M

CN1

REMOTE 1 IN

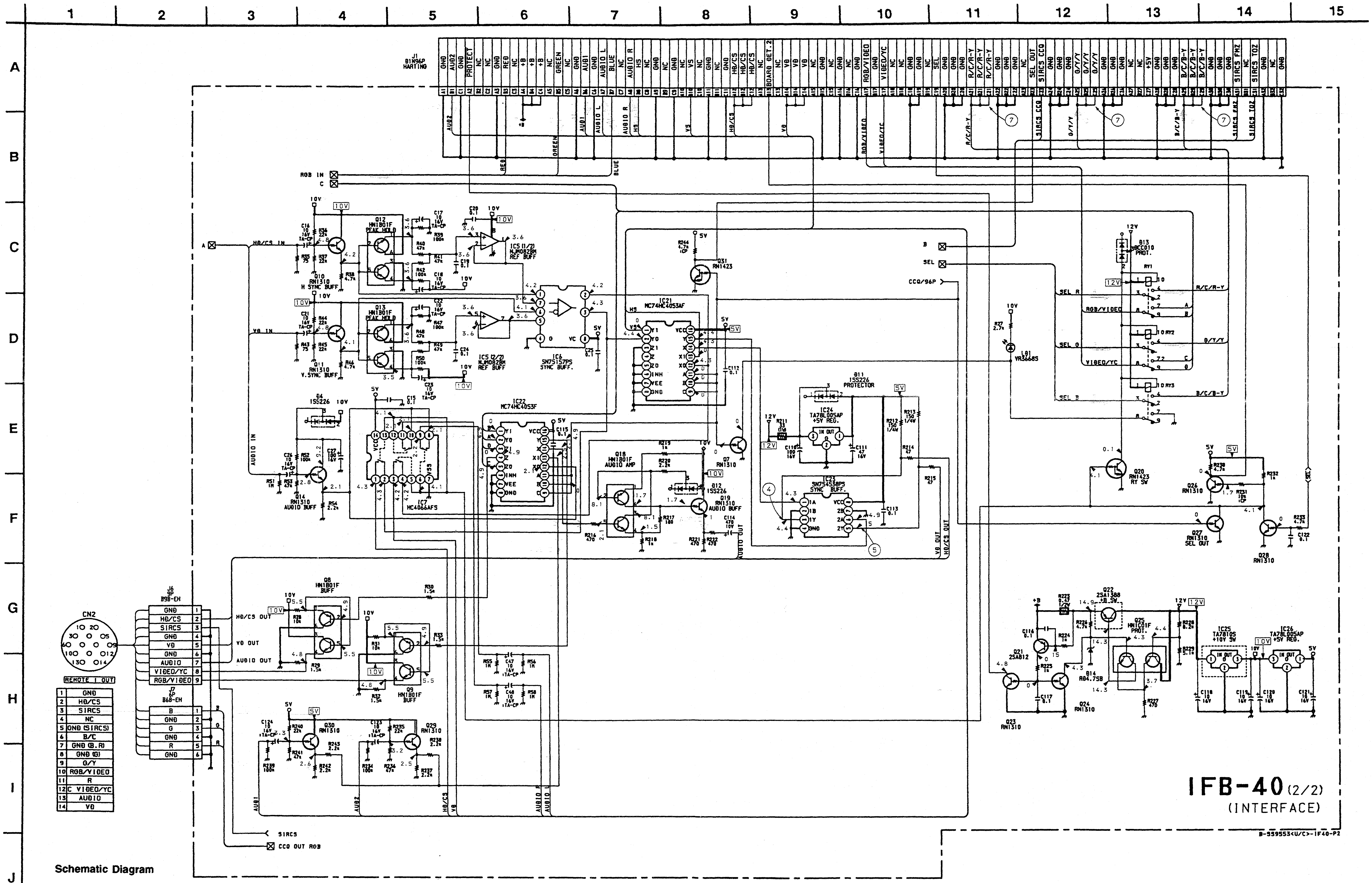
1	GND
2	HD/CS
3	SIRCS
4	NC
5	GND (SIRCS)
6	B/C
7	GND (B.R)
8	GND (G)
9	G/Y
10	RGB/VIDEO
11	R
12	C VIDEO/YC
13	AUDIO
14	VD

IFB-40 (1/2)

(INTERFACE)

B-999553<U/C>-IF40-P1

- **IFB-40 (2/2) (INTERFACE) DIAGRAM**
- Refer to page 4-261 for Waveforms
- Refer to page 4-261 for IC Block Diagram


1
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10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
J1
81N96P
HARTING
RGB IN
C
A
B
SEL
CCQ/96P
H0/CS IN
V0 IN
AUDIO IN
Q12
HN1B01F
PEAK HOLD
Q10
RN1310
H SYNC BUFF
Q13
HN1B01F
PEAK HOLD
Q11
RN1310
V.SYNC BUFF
IC5 (1/2)
NJM082BM
REF BUFF
IC5 (2/2)
NJM082BM
REF BUFF
IC6
SN75157PS
SYNC BUFF.
IC21
MC74HC4053AF
IC22
MC74HC4053F
IC7
MC4066AFS
Q14
RN1310
AUDIO BUFF
Q31
RN1423
Q18
HN1B01F
AUDIO AMP
Q19
RN1310
AUDIO BUFF
Q7
RN1310
D11
1SS226
PROTECTOR
IC24
TA78L05AP
+5V REG.
IC23
SN75453BPS
SYNC BUFF.
D13
8CC010
PROT.
RY1
RY2
RY3
L01
VR3666S
Q20
RN1423
RY SW
Q26
RN1310
Q27
RN1310
SEL OUT
Q28
RN1310
R/C/R-Y
G/Y/Y
B/C/B-Y
SEL R
SEL G
SEL B
RGB/VIDEO
VIDEO/YC
CN2
REMOTE 1 OUT
J6
9P
B9B-EH
J7
6P
B6B-EH
H0/CS OUT
V0 OUT
AUDIO OUT
Q8
HN1B01F
BUFF
Q9
HN1B01F
BUFF
Q30
RN1310
Q29
RN1310
SIRCS
CCQ OUT RGB
Q22
2SA1388
Q25
HN1C01F
PROT.
Q21
2SA812
Q23
RN1310
Q24
RN1310
D14
RD4.7SB
IC25
TA7810S
+10V SW
IC26
TA78L05AP
+5V REG.
10V
5V
12V
IFB-40 (2/2)
(INTERFACE)
B-559553<U/C>-IF40-P2

1	GND
2	H0/CS
3	SIRCS
4	NC
5	GND (SIRCS)
6	B/C
7	GND (B.R)
8	GND (G)
9	G/Y
10	RGB/VIDEO
11	R
12	C VIDEO/YC
13	AUDIO
14	V0

Schematic Diagram

← IFB-40 (1/2) board

IFB-40 (INTERFACE) BOARD

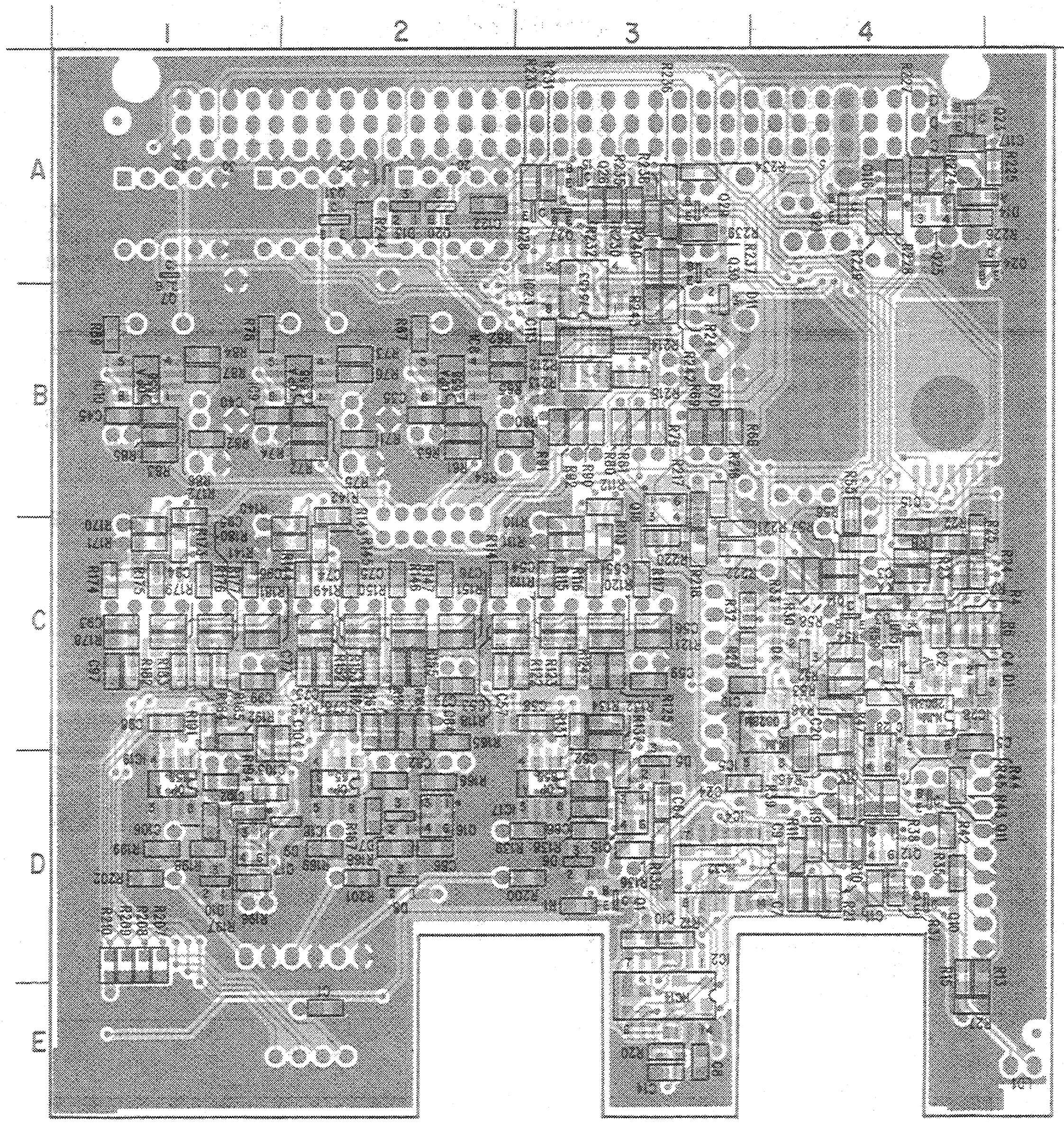
IFB-40 BOARD
Semiconductor Location

DIODE	
D1	C-4
D2	C-5
D3	C-4
D5	D-3
D6	D-3
D7	D-2
D8	D-2
D9	D-2
D10	D-1
D11	B-3
D12	C-7
D13	A-2
D14	A-5
D15	C-4
LD1	E-5

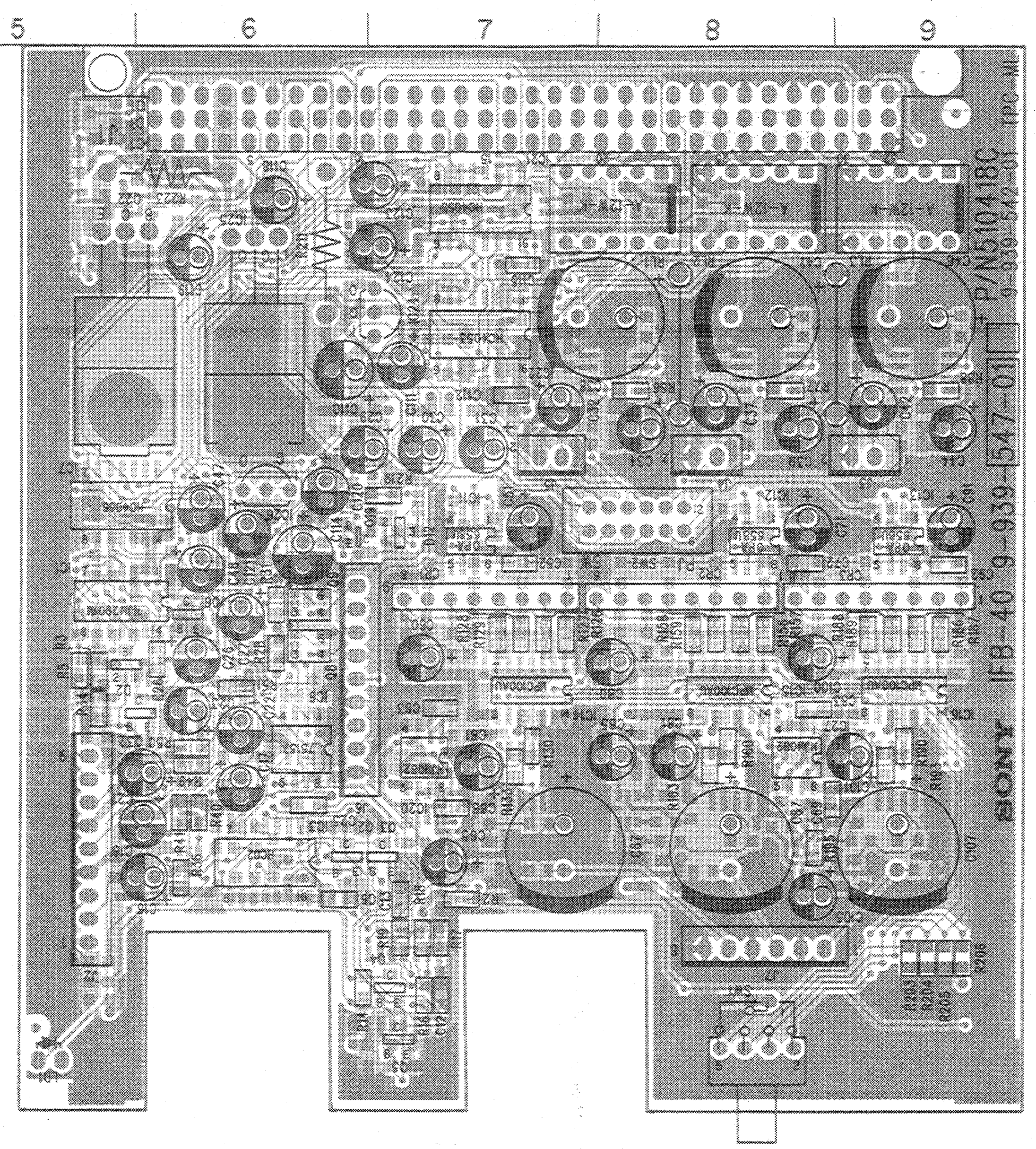
IC	
IC1	C-5
IC2	E-3
IC3	D-6
IC4	D-3
IC5	C-4
IC6	D-6
IC7	B-5
IC8	B-2
IC9	B-2
IC10	B-1
IC11	C-7
IC12	C-8
IC13	C-9
IC14	C-7
IC15	C-8
IC16	C-9
IC17	D-3
IC18	D-2
IC19	D-1
IC20	D-7
IC21	A-7
IC22	B-7
IC23	B-3
IC24	B-7
IC25	B-6
IC26	B-6
IC27	D-8
IC28	C-4

TRANSISTOR	
Q1	D-3
Q2	D-6
Q3	D-7
Q4	E-7
Q5	E-7
Q6	C-6
Q7	A-1
Q8	C-6
Q9	C-6
Q10	D-4
Q11	D-4
Q12	D-4
Q13	D-4
Q14	C-4
Q15	D-3
Q16	D-2
Q17	D-1
Q18	B-3
Q19	C-6
Q20	A-2
Q21	A-4
Q22	B-6
Q23	A-4
Q24	A-5
Q25	A-4
Q26	A-3
Q27	A-3
Q28	A-3
Q29	A-3
Q30	B-3
Q31	A-2
Q32	C-6

— IFB-40 BOARD — <Conductor side>

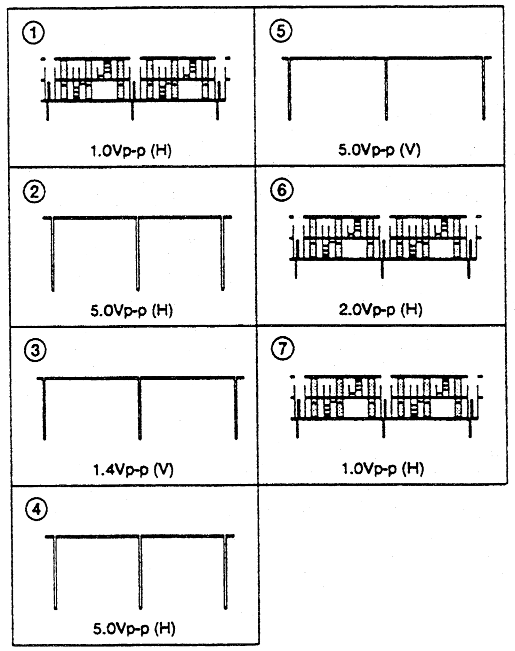


— IFB-40 BOARD — <Component side>



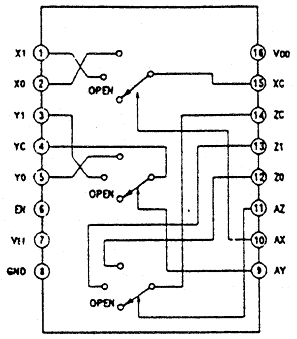
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

IFB-40 Board Waveforms

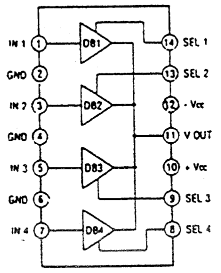


IFB-40 IC BLOCK DIAGRAMS

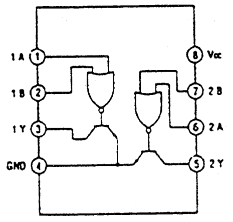
MC74HC4053F (IC21, 22)


X1
X0
Y1
YC
Y0
EN
VEE
GND
VDD
XC
ZC
Z1
Z0
AZ
AX
AY
OPEN
OPEN
OPEN

MPC100AU (IC14 – 16)

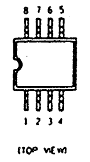

IN 1
GND
IN 2
GND
IN 3
GND
IN 4
DB1
DB2
DB3
DB4
SEL 1
SEL 2
-Vcc
V OUT
+Vcc
SEL 3
SEL 4

SN75453BPS (IC23)

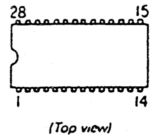

1A
1B
1Y
GND
Vcc
2B
2A
2Y

4-5. SEMICONDUCTOR LOCATIONS

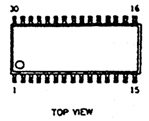
AD835AR
CXA1450M-T4
GS1881-CKA
MAX4121CSA-TE2
MAX762CSA-TE2
MM1112XFF
NJL5152MD
NJM082BM-T1
NJM2235M-T1
NJM2240M
NJM4200M-T1
TC4W66FU
TC7W08F
TC7W14F
TC7W241FU-TE12R
TC7W32F
TL082CPS-E-20
µPC393G2
µPC4588G2


8 7 6 5
1 2 3 4
(TOP VIEW)

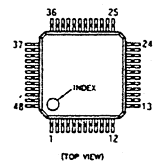
AT28C64-15PC
CXA1470AS
LM1283
M27C512-10F1
M27C5512-10F1


28
15
1
14
(Top view)

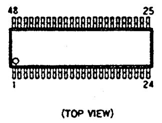
CXA1726AM-T6


30
16
1
15
TOP VIEW

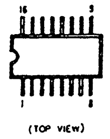
CXA1839Q
CXA2011Q


36
25
37
24
INDEX
48
13
1
12
(TOP VIEW)

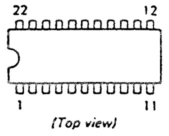
CXA1855Q


48
25
1
24
(TOP VIEW)

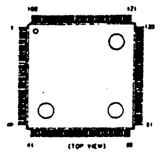
CXA1875AM-T4
CXA8038P
MAX8213BCSE-TE2
MC14053BF-T2
MC74HC4053F-T2
MC74HC4538AF
PCF8574T-T
SN74HC123AF
SN74HC138ANS
SN74HC139ANS
SN74HC157ANS
SN75123NS
TC74HC123AF
TC74HC238AF
TC74HC4053AF
TC74VHC123AF
TC74VHC153F


16
9
1
8
(TOP VIEW)

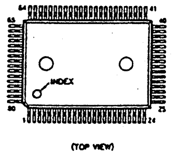
CXA2016S
µPC1377C


22
12
1
11
(Top view)

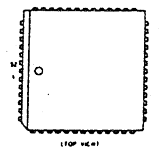
CXD108-146Q



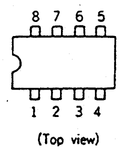
CXD2024AQ


INDEX
(TOP VIEW)

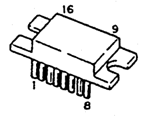
CY7C136-55JC-TEL



LM393P
MM1170BFB
TL082CP
µPC358C
µPC4558C
µPC814C
µPC814G2-T1


8 7 6 5
1 2 3 4
(Top view)

GL6P202



HD14538BFP-TL
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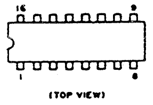
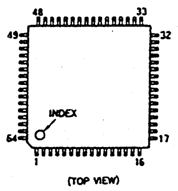
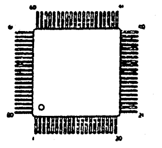
MC14495P1
MC14572UBCP
TDA4665T-T
µC3854N


16
9
1
8
(TOP VIEW)

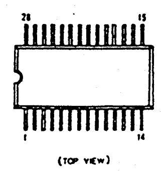
HD6473258F10
MB90091APF-SX1588


48
33
49
32
INDEX
64
17
1
16
(TOP VIEW)

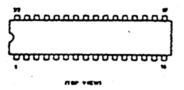
HD643337WA08F



HM6264BLFP-10LTZ
MAX211ESAI-TE2


28
15
1
14
(TOP VIEW)

HN58C1001P-15
M27C1001-10F1
M27C2001-15F1



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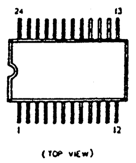
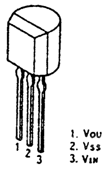
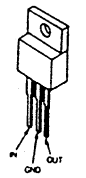
ICS1522MT
MB86022PF
MP7670AS-TE2


24
13
1
12
(TOP VIEW)

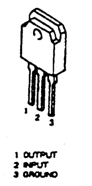
LM2931Z-5.0


1
2
3
1. Vou
2. Vss
3. VIN

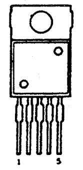
LM2940CT-5.0
LM7812CT
NJM7809FA
NJM7812FA



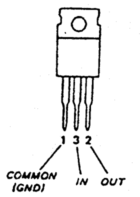
LM2990T-5.0


1
2
3
1 OUTPUT
2 INPUT
3 GROUND

LM675T



LM7912CT


1 3 2
COMMON (GND)
IN
OUT

MAX489ECSD-TE2
MC74HC02AF-T2
MC74HC4078FEL
NJM084M-TE2
SN74HC00ANS
SN74HC04ANS
SN74HC08ANS
SN74HC11ANS
SN74HC125ANS-E05
SN74HC32ANS
SN74HC74ANS
SN74HCT08ANS-E05
TC74HC4066AF
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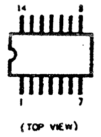
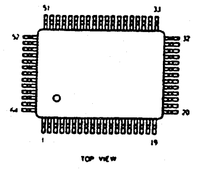
TC74VHC32F
TC74VHC74F


14
8
1
7
(TOP VIEW)

MB654842UPF
MB671469PF



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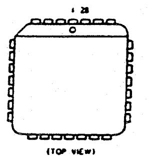
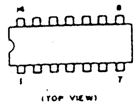
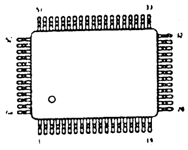


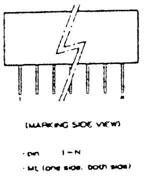
MC14001BCP
MC14011BCP
MC1436CP1
MC1495BP
TC74HC107AF
TC74HC14AF
µPC1394C


14
8
1
7
(TOP VIEW)

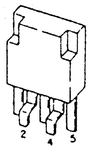
MC74HC164F



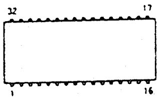
MC8639A


(MARKING SIDE VIEW)

MX0341B-F



M27C4001-10F1
TDA9141-N2C



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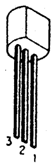

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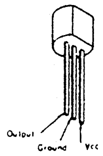
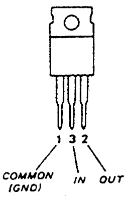
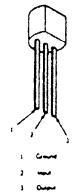

Output
Ground
Vcc

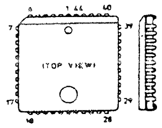
NJM7912FA


1 3 2
COMMON (GND)
IN
OUT

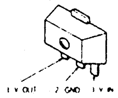
NJM79L12A


1 Ground
2 Input
3 Output

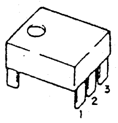
PC16550DV-FL63



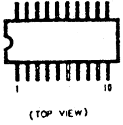
RH5VL43CA-T1


1 V OUT
2 GND
3 V IN

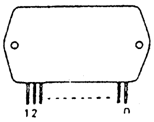
SBX1810-09



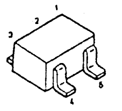
SN74HC541ANS


20
11
1
10
(TOP VIEW)

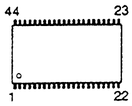
STK392-220



TC4S66F
TC7S00F
TC7S04F
TC7S08FU
TC7S32F
TC7S66F



TC551664AJ-20 (EL)



TL431CLP
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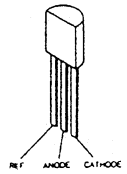
REF
ANODE
CATHODE

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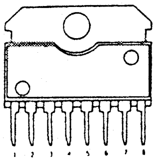

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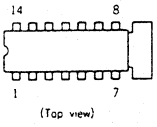
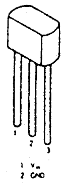
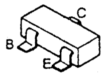

14
8
1
7
(Top view)

VPA15H
VPH06


1
2
3
1 Vin
2 GND
3 Vout

DTA144EKA-T146
DTC144EKA-T146
2SA1162-YG-TE85L
2SA1724
2SC2712-YG-TE85L
2SC3356-T1
2SC3545-T44



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DTC144ESA-TP
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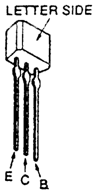
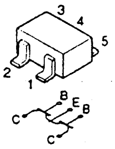
2SB810TP-H
2SC2785-HFE


LETTER SIDE
E
C
B

FMS1-T-148


3
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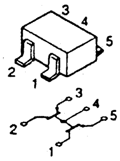
2
1
B
E
B
C
C

FMS2-T-148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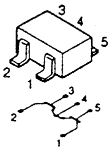
FMW5-T-148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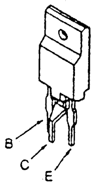
IRFI9620GS
2SD1878-CA



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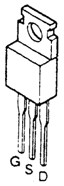
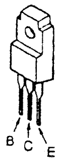


IRFIP250
2SD1459



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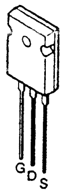
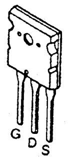


IRFP460



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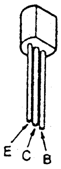

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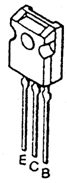
2SC3421-Y



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2SB648A-C
2SB772-P
2SC2688-L
2SC2688-LK
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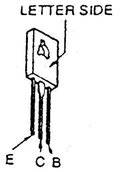
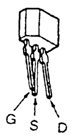
2SD882-Q


LETTER SIDE
E
C
B

2SA1462-T1Y34



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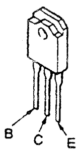
2SC4689-R0
2SC5238-C8



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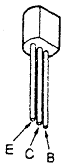

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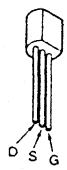

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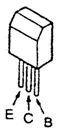
2SD774-T-34



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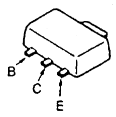
2SC3357-HFE
2SC4504



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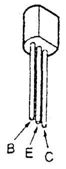

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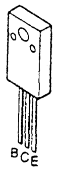

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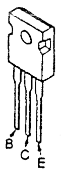

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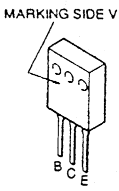
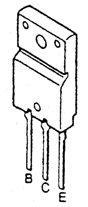

MARKING SIDE VIEW
B
C
E

2SC4630LS



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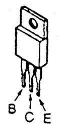

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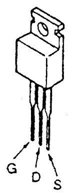
2SK755
2SK929



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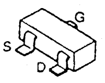

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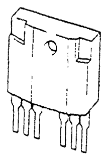
MX031AB-F



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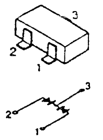

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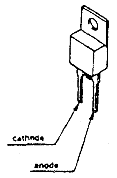
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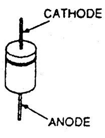
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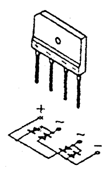

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D1NS4-TA
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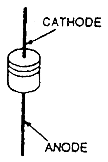
RD13ES-T1B2
RD15ES-T1B2
RD20ES-T1B2
RD24ES-T1B2
RD30ES-T1B2
RD33ESB2
RD33ES-T1B2
RD3.9ES-T1B
RD39ES-T1B2
RD5.1ESB2
RD5.6ES-T1B2
RD6.2ES-T1B2
RD7.5ES-T1B2
RD9.1ES-T1B2
1SS119
11EQS04-TAB1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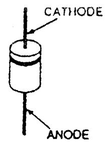
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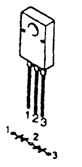

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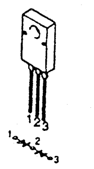
D10SC6M



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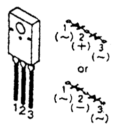

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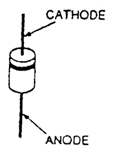
ERC91-02
ERC91-02E
RU-1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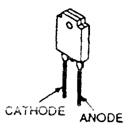
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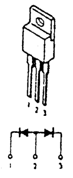

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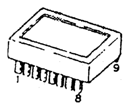

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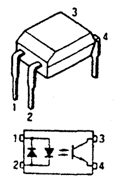

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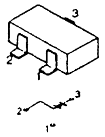
RD15M-T1B2
RD5.1M-B2
RD6.2M-B2
RD6.8M-T1B2
RD9.1M-B2



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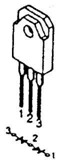
RD10M-T182



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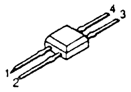

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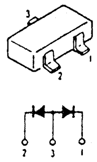

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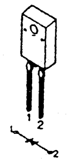

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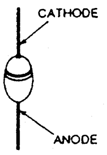
V11N-T52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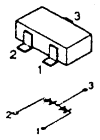

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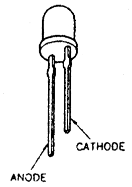
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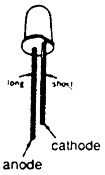
long
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anode

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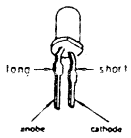
long
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SECTION 5

EXPLODED VIEWS

NOTE :

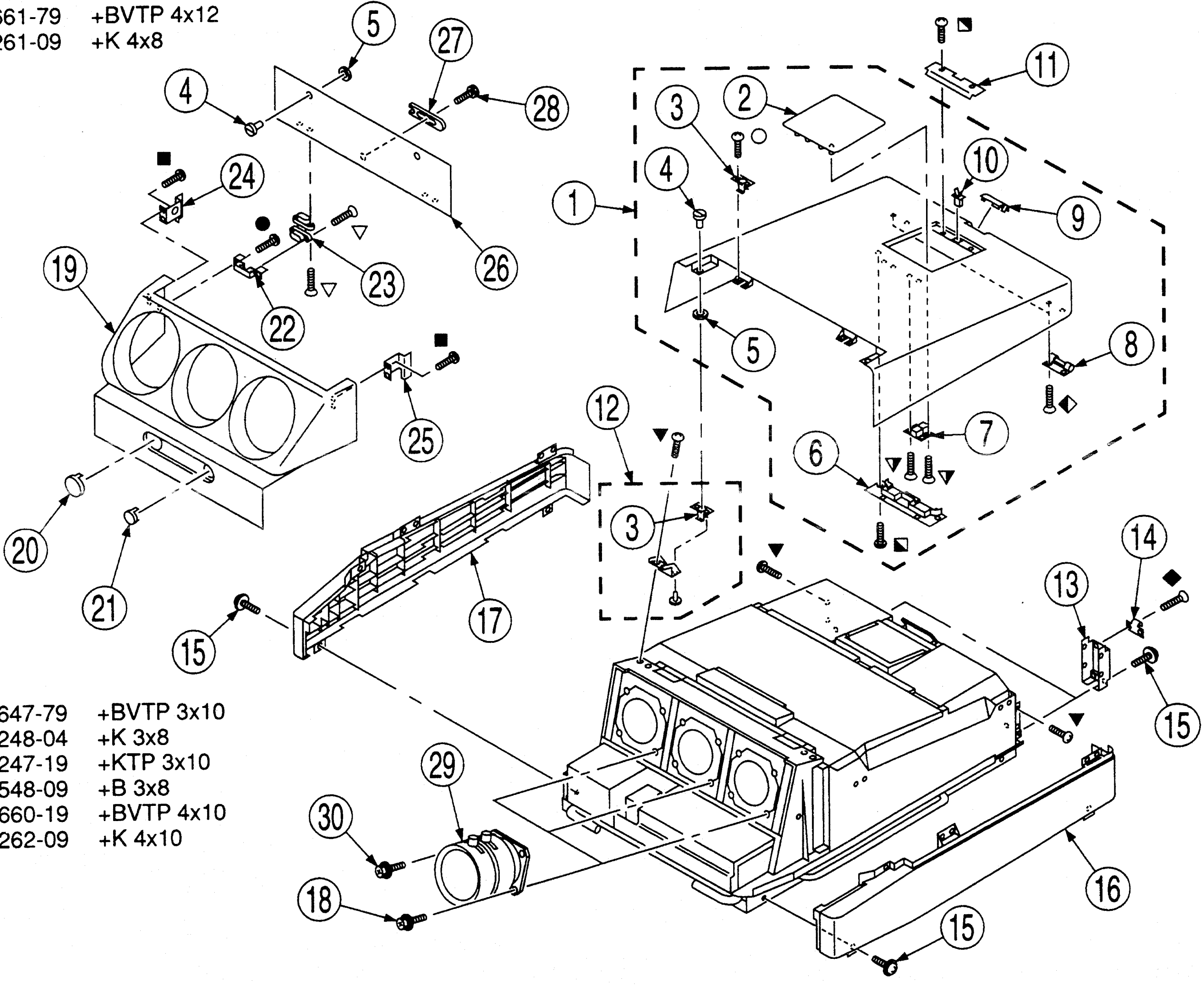
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1. COVER BLOCK

● : 7-685-646-79 +BVTP 3x8 (BZn)
▼ : 7-685-659-79 +BVTP 4x8
■ : 7-685-661-79 +BVTP 4x12
◆ : 7-682-261-09 +K 4x8

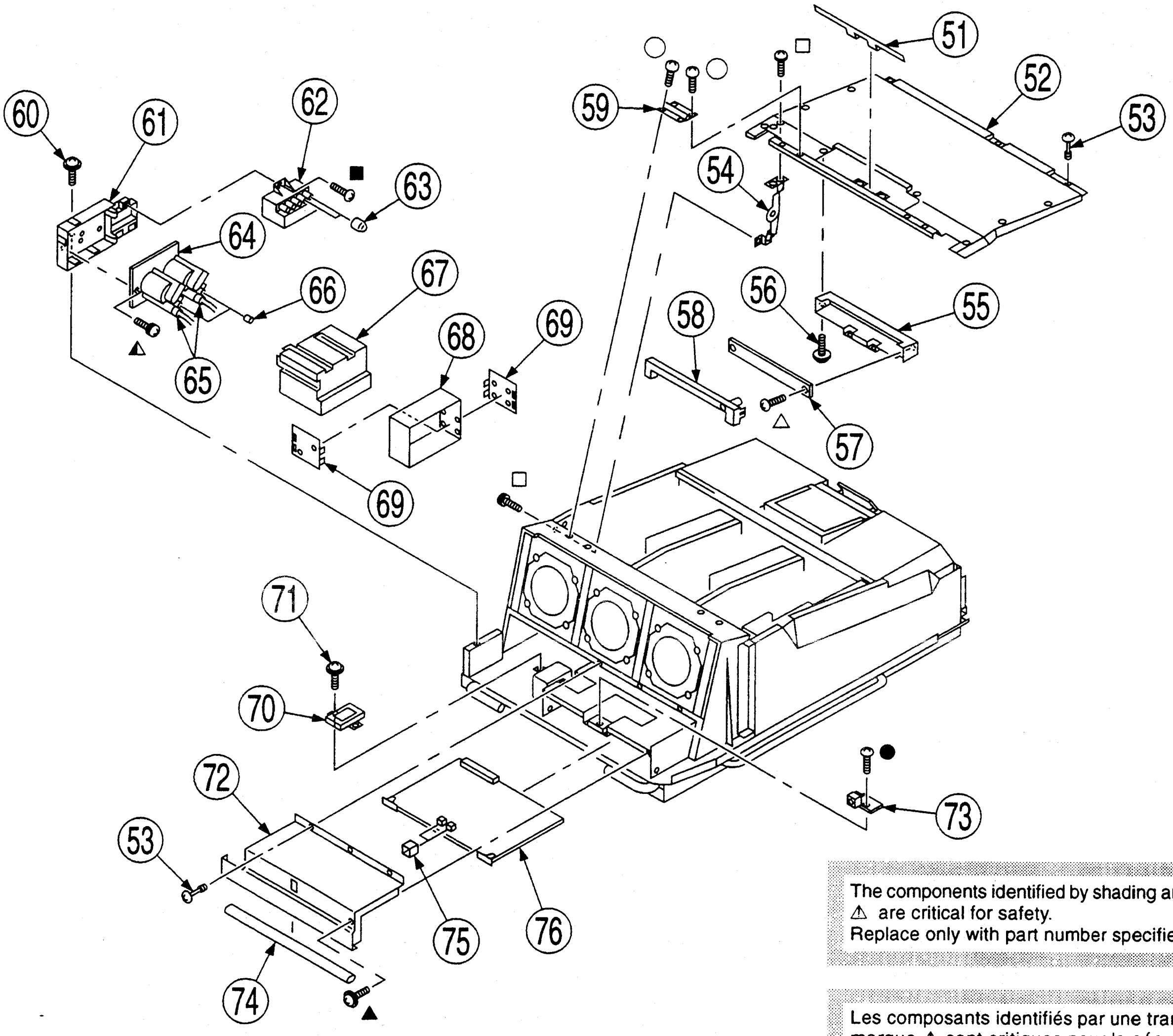


○ : 7-685-647-79 +BVTP 3x10
▽ : 7-682-248-04 +K 3x8
▼ : 7-685-247-19 +KTP 3x10
◩ : 7-682-548-09 +B 3x8
◪ : 7-685-660-19 +BVTP 4x10
◆ : 7-682-262-09 +K 4x10

REF NO.	PART NO.	DESCRIPTION	REMARK
1	X-4034-002-1	HOOD ASSY	2-10
2	X-4034-003-1	DOOR ASSY, CONTROL	
3	4-055-939-01	CLIP	
4	4-055-940-01	FASTENER	
5	4-055-953-01	RING, FASTENER	
6	* 4-057-623-01	COVER, COMMANDER	
7	4-055-964-01	HINGE, BLIND	
8	4-055-954-01	HINGE (F), HOOK	
9	4-055-938-01	INDICATOR	
10	4-352-034-00	CATCHER, PUSH	
11	* 4-056-094-01	COVER, SWITCH	
12	X-4034-016-1	CATCHER ASSY, HOOD	3
13	4-055-975-01	STAND, HINGE	
14	4-055-976-01	HINGE (M), HOOK	
15	3-701-810-81	SCREW, TERMINAL	
16	X-4034-000-1	COVER (R) ASSY, SIDE	
17	X-4034-001-1	COVER (L) ASSY, SIDE	
18	4-056-110-11	SCREW, SW HEXAGON HEAD M5X12	
19	4-055-996-01	COVER, FRONT	
20	4-055-997-01	CAP (C), FRONT	
21	* 4-055-998-01	FILTER	
22	4-055-999-01	BOSS (A), ADHESIVE	
23	4-055-982-01	HINGE (F), BLIND	
24	4-056-016-01	HOOK (FR-R), COVER	
25	4-056-017-01	HOOK (FR-L), COVER	
26	4-055-995-01	DOOR, ADJUSTMENT	
27	4-057-708-01	LEVER, ADJUSTMENT	
28	4-055-981-01	SCREW, ADJUSTMENT PLATE	
29 ⚠	4-055-978-02	LENS (HD-18)	
30	4-056-110-01	SCREW, SW HEXAGON HEAD M5X12	

5-2. DB, HVF BLOCK

● : 7-685-646-79 +BVTP 3x8 (BZn)
▲ : 7-682-562-04 TERMINAL SCREW
■ : 7-685-661-79 +BVTP 4x12
△ : 7-685-660-11 +BVTP 4x10
□ : 7-682-647-09 +PS 3x6
◭ : 7-682-950-01 +PSW 3x12
○ : 7-685-645-19 +BVTP 3x6



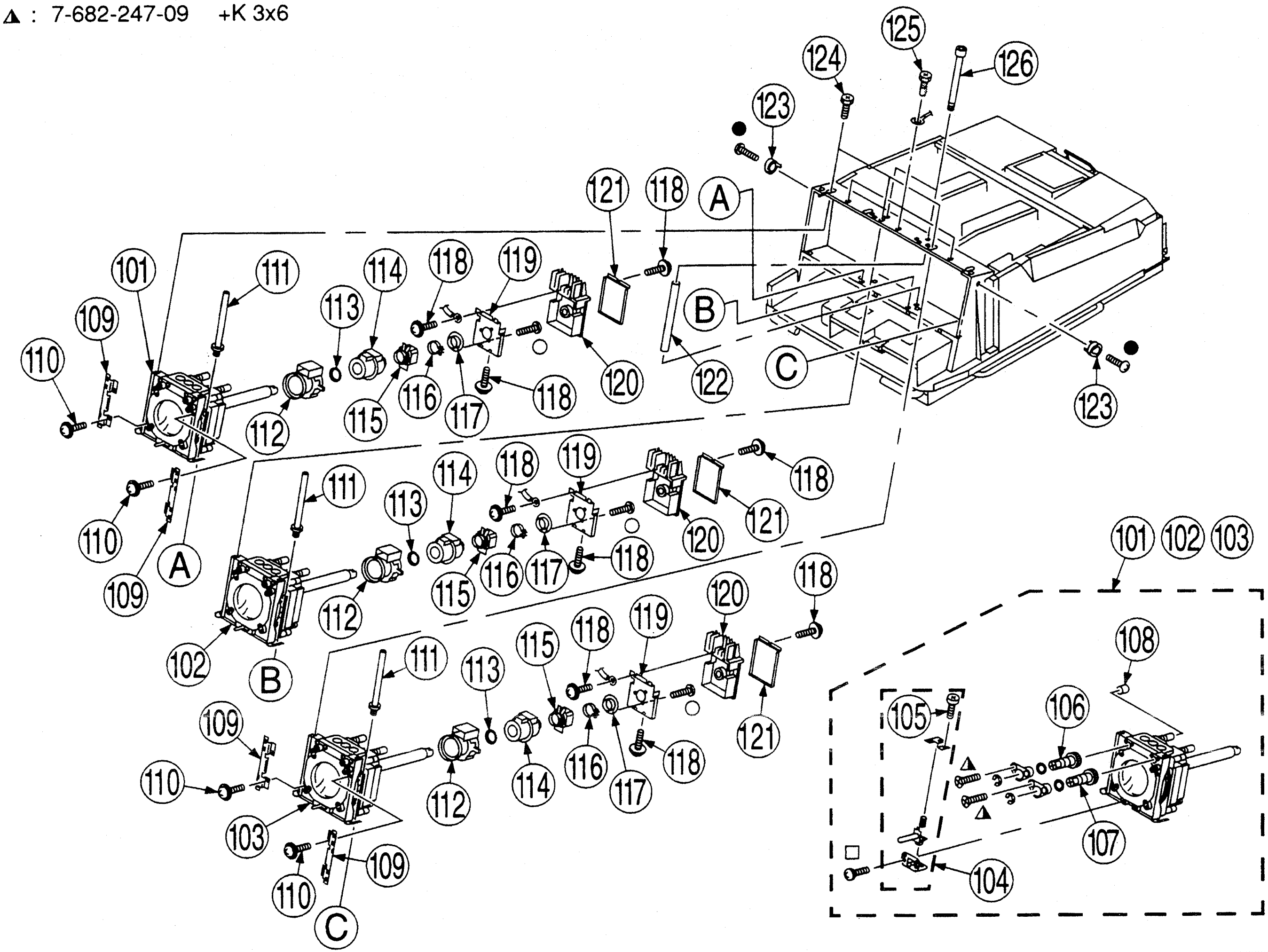
The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.		PART NO.	DESCRIPTION	REMARK
51	*	4-058-127-01	SHEET (DB)	
52	*	4-058-090-01	COVER, TOP	
53		4-058-089-01	SCREW (A), M3	
54		4-058-091-01	STOPPER	
55		4-056-007-01	BOX, DB	
56		3-701-809-31	SCREW, TERMINAL (M3X8)	
57	*	A-1343-190-A	DB MOUNTED PC BOARD	
58		4-056-008-01	COVER, DB	
59		4-056-010-01	HINGE (T)	
60		3-701-810-81	SCREW, TERMINAL	
61	*	4-056-104-01	HOLDER, FBT	
62	⚠	1-453-108-31	DC BLOCK, HIGH-VOLTAGE	
63		4-373-137-01	CAP (Z), RUBBER	
64	*	A-1190-260-A	PB MOUNTED PC BOARD	
65	⚠	X-4034-325-1	TRANSFORMER ASSY, FLYABACK (NX3031//J1W)	
65	⚠	X-4034-326-1	TRANSFORMER ASSY, FLYABACK (NX3031//J1X)	
66		4-042-892-01	CAP, MV	
67		4-056-105-01	COVER, FBT	
68	*	4-057-709-01	RING, FBT	
69	*	4-057-710-01	SHEET, CANCELING	
70	*	4-056-041-01	BRACKET, CAMERA	
71		4-033-713-01	SCREW (+PWH M4X10), PREVENTION	
72		4-058-058-01	COVER, PA	
73	*	A-1390-679-A	NB MOUNTED PC BOARD	
74		4-058-059-01	GASKET (PA)	
75		4-057-640-01	COVER, VOLUME	
76	*	A-1195-114-A	PA COMPLETE PC BOARD	

5-3. PICTURE TUBE BLOCK

● : 7-685-646-79 +BVTP 3x8 (BZn)
○ : 7-685-647-79 +BVTP 3x10
□ : 7-682-647-09 +PS 3x6
▲ : 7-682-247-09 +K 3x6


125
124
126
123
●
121
118
A
101
111
114
118
119
109
113
110
B
120
122
C
●
123
112
115
116
117
118
118
111
114
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119
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110
121
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116
117
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109
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The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

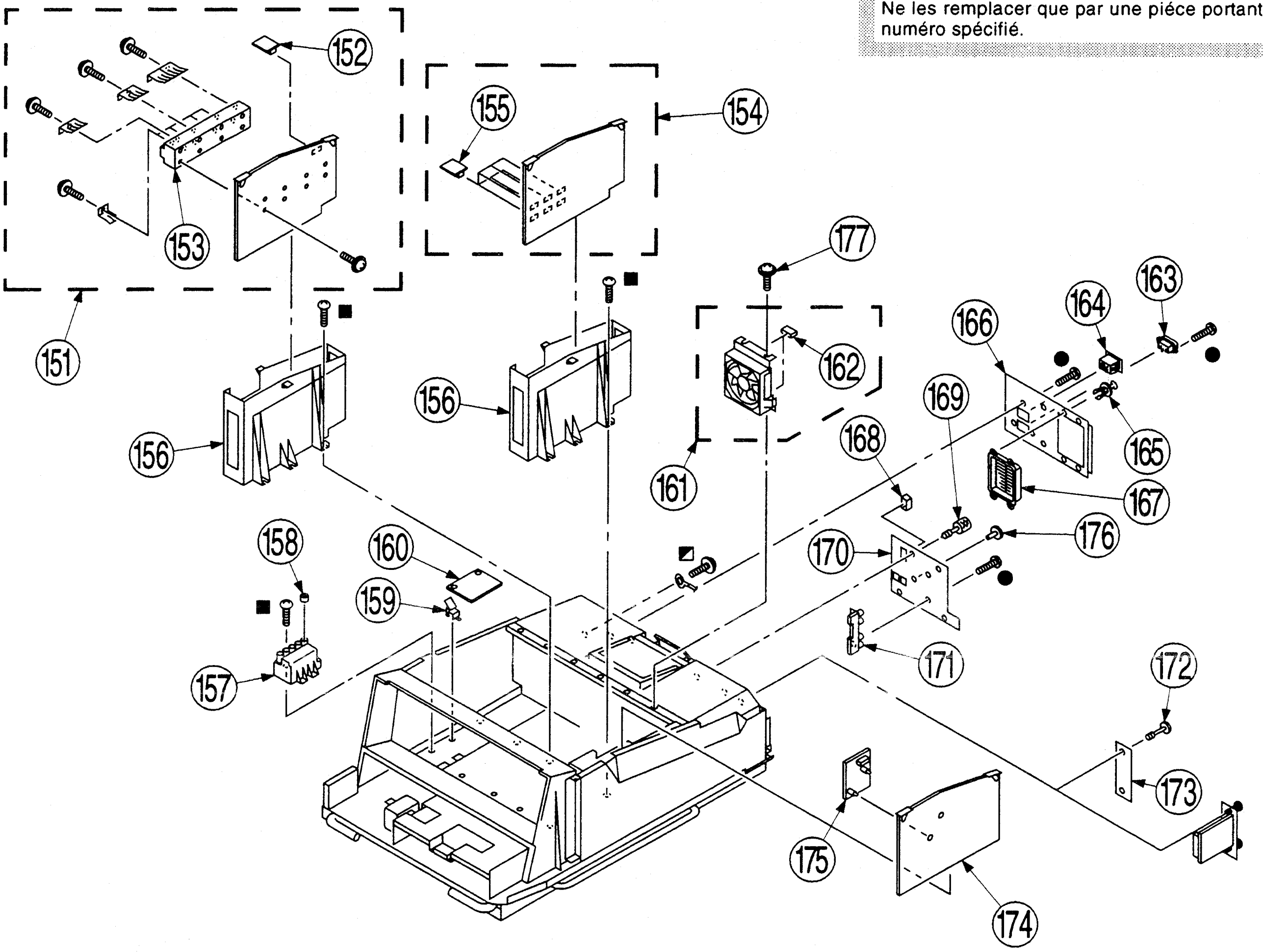
REF NO.	PART NO.	DESCRIPTION	REMARK
101 ⚠	A-1501-117-A	COUPLING (B) ASSY, CRT	104-108
102 ⚠	A-1501-116-A	COUPLING (G) ASSY, CRT	104-108
103 ⚠	A-1501-115-A	COUPLING (R) ASSY, CRT	104-108
104	X-4034-019-2	PIN ASSY	105
105	7-627-553-38	SCREW (2X3)	
106	4-055-941-03	GEAR (R)	
107	4-056-075-03	GEAR (L)	
108	4-055-951-01	CAP, SAFETY	
109	* 4-055-983-01	BARRIER, LENS	
110	3-701-810-81	SCREW, TERMINAL	
111	4-056-011-01	POLE, CRT	
112 ⚠	1-451-449-11	DEFRECTION YOKE	
113	4-056-815-01	WEDGE	
114 ⚠	1-452-880-11	NECK ASSEMBLY (NA-2911)	
115 ⚠	1-452-881-11	NECK ASSEMBLY (NA-2912)	
116	4-056-029-01	BAND, NECK	
117	4-056-030-01	HOLDER, NECK	
118	3-701-809-31	SCREW, TERMINAL (M3X8)	
119	* 4-056-037-01	COVER (T), CA SHIELD	
120	* A-1335-078-A	C COMPLETE PC BOARD	
121	* 4-056-038-01	CASE (B), CA SHIELD	
122	4-056-013-01	COVER, SHAFT	
123	4-056-015-01	GUIDE (FR), HOOK	
124	4-055-992-01	SCREW, CONVER ADJUSTMENT	
125	4-056-045-01	PIN, COUPLER	
126	4-056-014-01	SHAFT	

5-4. E, DC, D, REAR PANEL BLOCK

● : 7-685-646-79 +BVTP 3x8 (BZn)
■ : 7-685-661-79 +BVTP 4x12
◩ : 7-682-961-01 +PSWB 4x8

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.



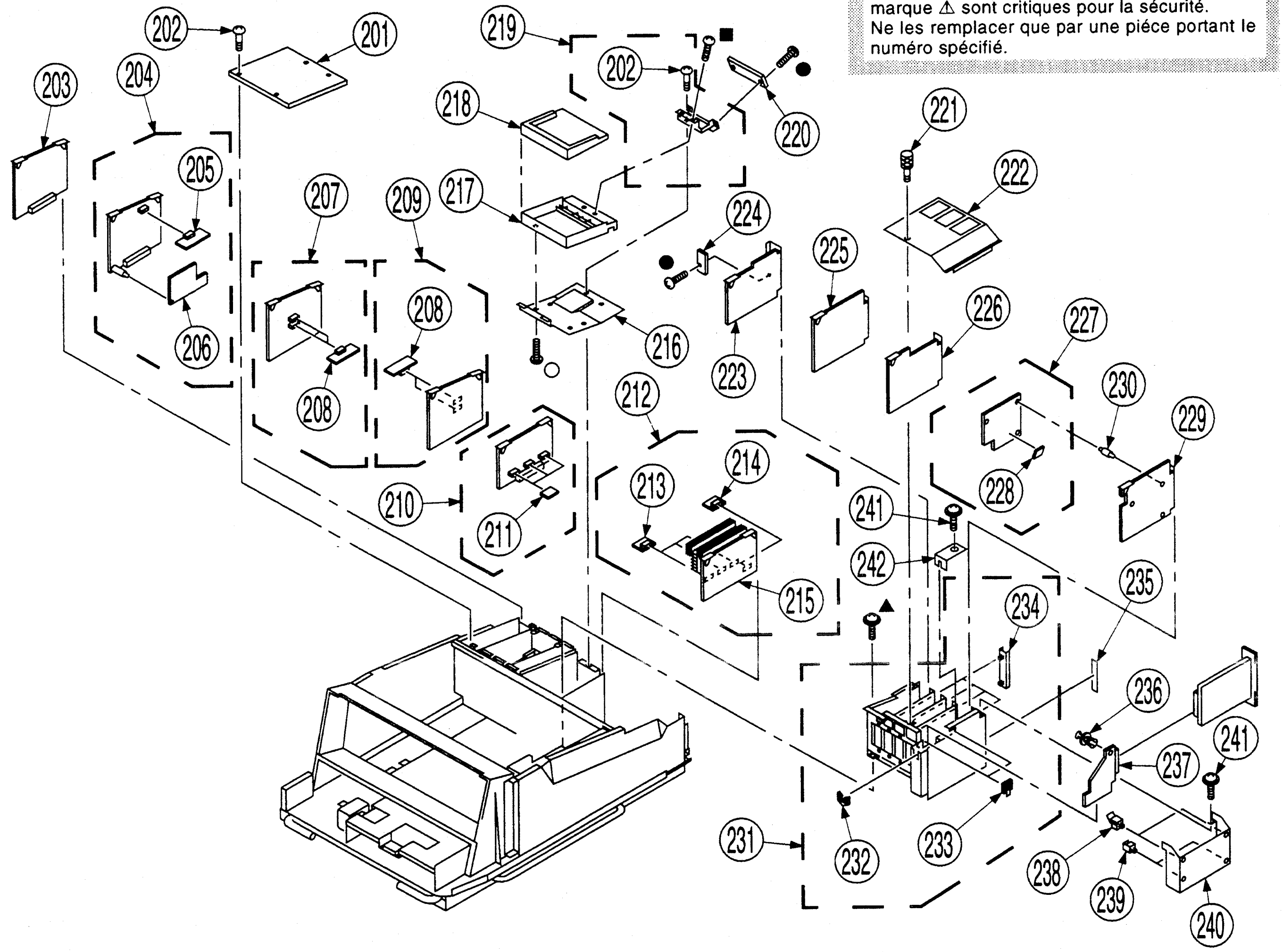
REF NO.		PART NO.	DESCRIPTION	REMARK
151	*	A-1346-534-A	E COMPLETE PC BOARD	152,153
152	*	A-1343-259-A	EA MOUNTED PC BOARD	
153	*	X-4033-998-1	STAY ASSY	
154	*	A-1346-533-A	DC COMPLETE PC BOARD	155
155	*	A-1343-194-A	DCR MOUNTED PC BOARD	
156		X-4034-012-1	CASE ASSY, GUIDE	
157	⚠	1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
158		4-373-137-01	CAP (Z), RUBBER	
159	*	3-696-440-11	HOLDER (B), PC BOARD	
160	*	A-1304-114-A	MT MOUNTED PC BOARD	
161		A-1501-056-A	FAN ASSY	162
162		4-058-244-01	SPACER (H)	
163	⚠	1-251-263-11	INLET, AC	
164	⚠	1-762-870-11	SWITCH, AC POWER SEESAW	
165		4-374-303-02	RIVET, NYLON	
166	*	4-057-762-03	PANEL (AC), REAR	
167	*	4-057-622-01	GUARD, PANEL	
168	*	3-673-948-11	CAP, DUST	
169		4-055-636-01	SCREW (S2), M3	
170		4-058-138-01	PANEL, REAR (G70QMG)	
170		4-058-138-11	PANEL, REAR (G70Q/G70QM)	
171	*	A-1131-254-A	BC MOUNTED PC BOARD (G70Q/G70QM)	
172		4-396-203-01	SCREW (+B M3X12), PREVENTION	
173		4-035-771-01	PLATE, BLIND	
174	*	A-1346-532-A	D COMPLETE PC BOARD	
175		A-1343-311-A	DD MOUNTED PC BOARD	
176		3-728-267-01	COVER, 3.5 JACK	
177		3-701-810-81	SCREW, TERMINAL	

5-5. CONTROL PANEL, BY CASE BLOCK

● : 7-685-646-79 +BVTP 3x8 (BZn)
▲ : 7-682-562-04 TERMINAL SCREW
■ : 7-685-661-79 +BVTP 4x12
○ : 7-685-647-79 +BVTP 3x10

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

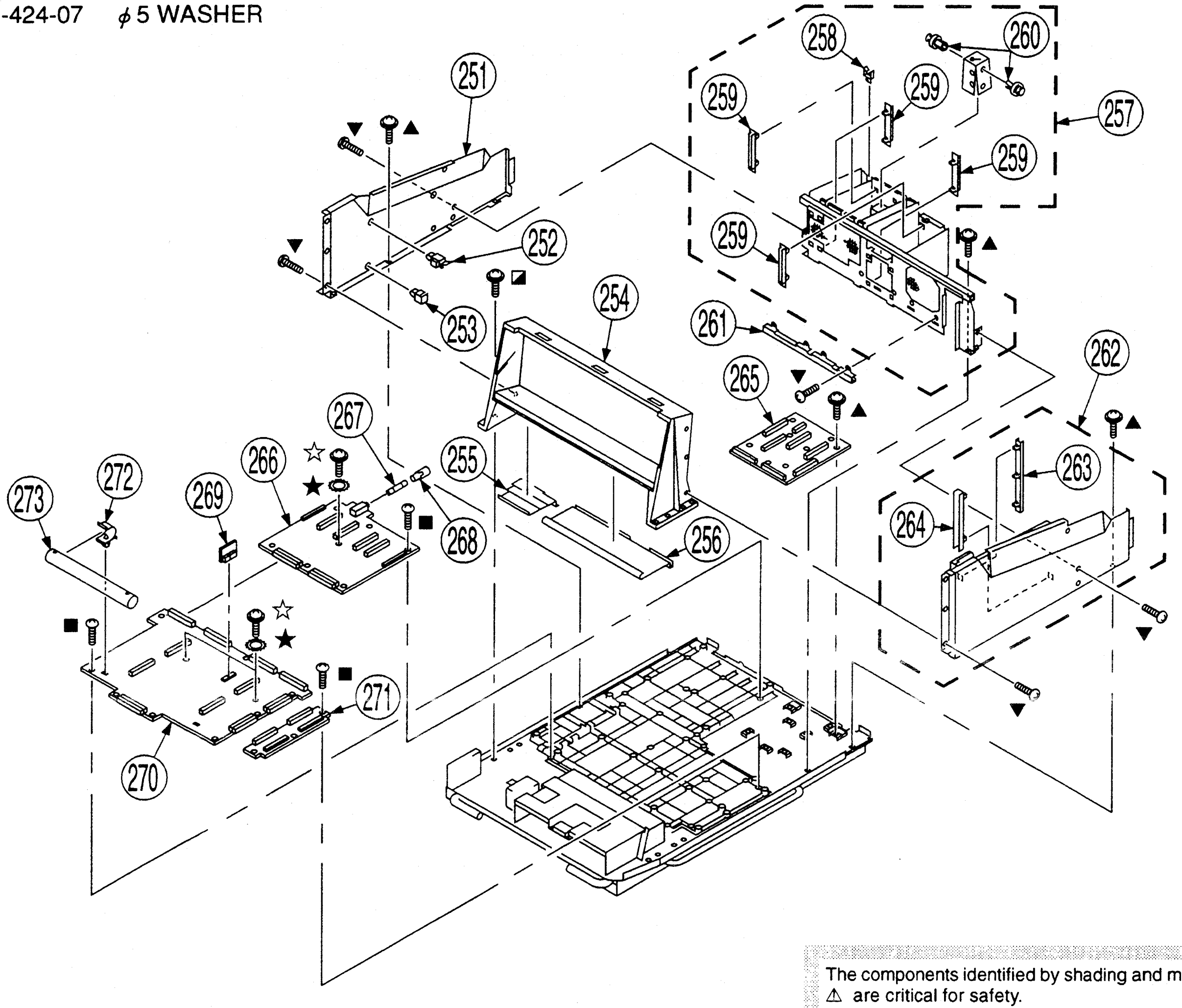


REF NO.	PART NO.	DESCRIPTION	REMARK
201	4-058-142-01	COVER, REAR BOX	
202	4-058-089-01	SCREW (A), M3	
203 ⚠	* A-1245-594-A	F COMPLETE PC BOARD	
204 ⚠	* A-1245-590-A	FA COMPLETE PC BOARD	204, 205, 206
205 ⚠	* A-1241-264-A	FAA MOUNTED PC BOARD	
206 ⚠	* A-1241-266-A	FAB MOUNTED PC BOARD	
207 ⚠	* A-1316-285-A	GA COMPLETE PC BOARD	208
208 ⚠	* A-1311-518-A	GC MOUNTED PC BOARD	
209	* A-1316-286-A	GB COMPLETE PC BOARD	208
210	* A-1346-536-A	EC COMPLETE PC BOARD	211
211	* A-1343-199-A	ECA MOUNTED PC BOARD	
212	* A-1346-535-A	EB COMPLETE PC BOARD	213-215
213	* A-1343-196-A	EBA MOUNTED PC BOARD	
214	* A-1343-197-A	EBB MOUNTED PC BOARD	
215	* A-1343-198-A	EB MOUNTED PC BOARD	
216	4-058-140-02	COVER (EB)	
217	4-056-107-03	HOLDER, COMMANDER	
218	1-473-900-11	REMOTE COMMANDER (RM-PJ1000)	
219	* X-4034-020-3	COVER ASSY, NA	202
220	* A-1390-675-A	NA MOUNTED PC BOARD	
221	4-055-636-01	SCREW (S2), M3	

REF NO.	PART NO.	DESCRIPTION	REMARK
222	4-058-139-01	COVER (BY)	
223	* A-1394-818-A	YC COMPLETE PC BOARD	
224	* A-1373-586-A	YF MOUNTED PC BOARD	
225	* A-1394-816-A	YB COMPLETE PC BOARD	
226	* A-1394-815-A	YA COMPLETE PC BOARD	
227	* A-1135-879-A	BA COMPLETE PC BOARD	228
228	* A-1131-271-A	BH MOUNTED PC BOARD	
229	* A-1135-897-A	B COMPLETE PC BOARD	
230	* 3-682-419-21	HOLDER, PC BOARD	
231	* X-4034-373-2	CASE ASSY, BY	232-234
232	4-058-145-01	SADDLE, EDGE	
233	* 4-316-015-02	HOLDER, WIRE	
234	* 4-360-309-11	SUPPORT, PC BOARD	
235	4-058-237-01	LABEL, COLOR	
236	4-374-303-02	RIVET, NYLON	
237	* A-1270-375-A	QM MOUNTED PC BOARD	
238	* 3-703-141-11	HOLDER, PC BOARD	
239	* 3-701-903-11	HOLDER, PC BOARD	
240	* 4-058-133-02	CASE (IDTV), BY	
241	3-701-809-31	SCREW, TERMINAL (M3X8)	
242	4-058-869-02	HOLDER, QM	

5-6. REAR CASE, CHASSIS BLOCK

▲ : 7-682-562-04 TERMINAL SCREW
▼ : 7-685-659-79 +BVTP 4x8
■ : 7-685-661-79 +BVTP 4x12
◪ : 7-682-663-09 +PS 4x12
☆ : 7-682-962-01 +PSW 4x10
★ : 7-623-424-07 ϕ5 WASHER



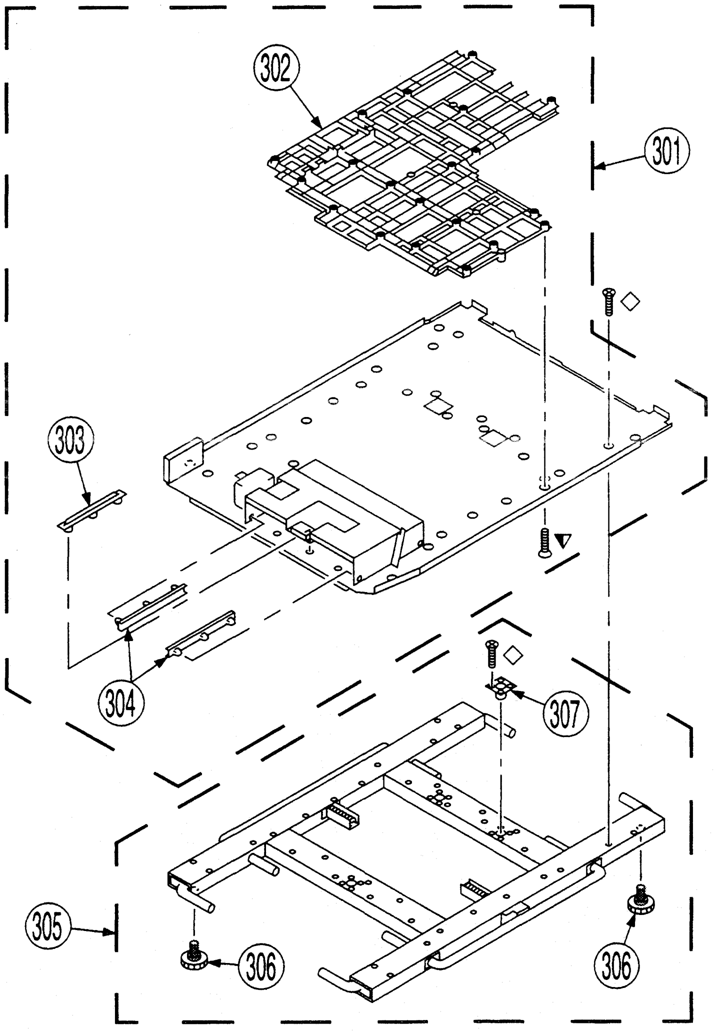
The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.		PART NO.	DESCRIPTION	REMARK
251	*	X-4034-010-1	CHASSIS (R) ASSY, SIDE	
252	*	3-703-141-00	HOLDER, PC BOARD	
253	*	3-701-903-11	HOLDER, PC BOARD	
254	*	4-056-012-02	BRACKET, CRT	
255	*	4-057-489-01	COVER, HVF	
256	*	4-057-490-01	SHEET (PA), ABSORPTION	
257	*	X-4034-374-1	CASE ASSY, REAR	258-260
258		4-058-145-01	SADDLE, EDGE	
259	*	4-360-309-11	SUPPORT, PC BOARD	
260		4-049-122-01	RIVET	
261		4-058-143-01	GUIDE, CABLE	
262		X-4034-009-1	CHASSIS (L) ASSY, SIDE	263-264
263		4-055-970-21	RAIL (S), PC BOARD GUIDE	
264		4-055-970-11	RAIL (S), PC BOARD GUIDE	
265	*	A-1131-237-A	BM MOUNTED PC BOARD	
266	*	A-1304-113-A	MR MOUNTED PC BOARD	
267	⚠	1-533-576-11	FUSE, TIME-LAG ((UL)ET)(T6.5AH 250V)	
267	⚠	1-533-694-11	FUSE GLASS ((UL)ET)(10A 250V)(G70Q)	
268		1-533-702-11	HOLDER, FUSE	
269	*	A-1390-695-A	L MOUNTED PC BOARD	
270	*	A-1304-112-A	MF MOUNTED PC BOARD	
271	*	A-1343-201-A	DM MOUNTED PC BOARD	
272	*	4-057-245-01	CLAMP, GUIDE	
273	*	4-057-244-01	GUIDE, ANODE	

5-7. BASE BLOCK

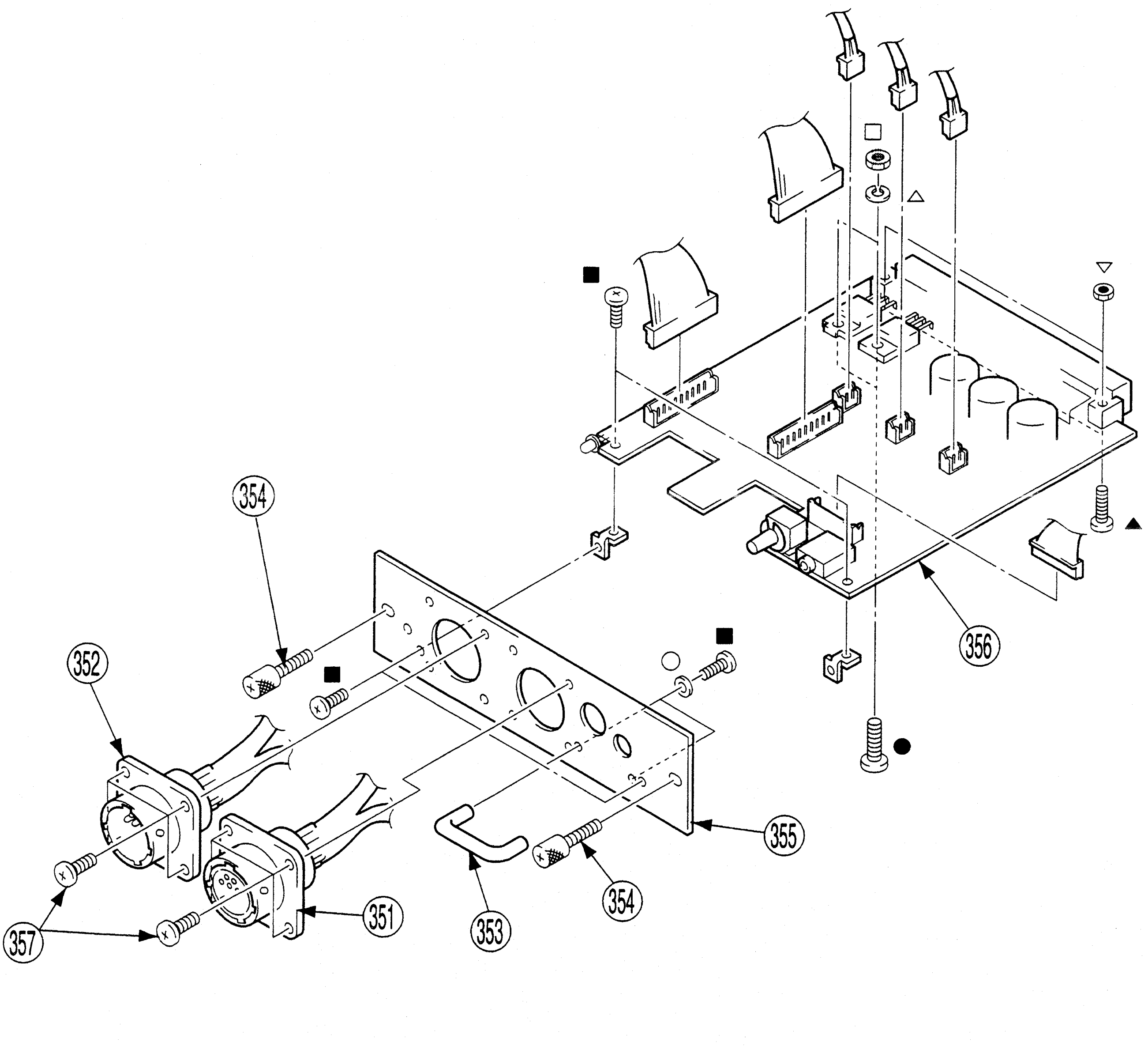
◇ : 7-682-261-04 +K 4x8
▼ : 7-685-261-14 +KTP 4x12



REF NO.	PART NO.	DESCRIPTION	REMARK
301	* X-4034-006-2	BASE ASSY	302-304
302	* 4-056-019-01	BRACKET, PC BOARD	
303	4-056-020-01	RAIL, PA	
304	4-055-970-21	RAIL (S), PC BOARD GUIDE	
305	* X-4034-008-1	STAY ASSY, BOTTOM	306, 307
306	4-056-043-01	ADJUSTOR	
307	4-056-044-01	NUT, SEALING	

5-8. IFB-40 BLOCK

● : 7-682-149-01 +P M3x10
■ : 7-621-773-95 +P M2.6x6 (BLACK)
▲ : 7-621-773-87 +P M2.6x10
○ : 7-623-207-22 WASHER (2.6)
□ : 7-684-023-04 NUT (M3)
△ : 7-623-208-22 WASHER (3.0)
▽ : 7-622-207-05 NUT (2.6)



REF NO.	PART NO.	DESCRIPTION	REMARK
351	9-939-544-01	CONNECTOR (FEMALE) (14P)	
352	9-939-543-01	CONNECTOR (MALE) (14P)	
353	4-032-851-01	HANDLE	
354	9-939-576-01	M3 SCREW (S2)	
355	9-939-548-01	PANEL (IFB-40)	
356	9-939-547-012	IFB-40 MOUNTED PC BOARD	
357	9-939-545-01	SCREW +BV 3x8 (BLACK)	

SECTION 6
ELECTRICAL PARTS LIST

B

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- PF : µµF

When indicating parts by reference number, please include the board name.

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order ot satisfy regulations regarding X-rey rediation.
Should replacement be required, replace only with the value originally used.
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1135-897-A	B COMPLETE PC BOARD ************************				
	1-562-579-21	RECEPTACLE, CONNECTOR 2P (CN35, 36, 37, 38, 39, 40)				
	* 4-056-085-01	HOLDER (BB), TR (IC606, 608, 609, 611)				
	* 4-057-871-01	HOLDER, HEAT SINK (BB)(IC601, 604)				
	4-057-872-01	HEAT SINK (BB)(IC601, 604)				
	7-682-648-09	SCREW +PS 3X8				
		< CAPACITOR >				
C101	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C102	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C104	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C105	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C106	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C107	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C108	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C109	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C110	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C111	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C112	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C113	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C114	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C115	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C116	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C117	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C118	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C119	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C120	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C121	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C122	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C123	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C124	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C125	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C126	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C127	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C128	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C129	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C131	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C132	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C133	1-135-091-00	TANTAL. CHIP	1MF	20%	16V	
C134	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C135	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C136	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C137	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C138	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C139	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C140	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C141	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C142	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C143	1-135-091-00	TANTAL. CHIP	1MF	20%	16V	
C144	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C145	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C146	1-135-091-00	TANTAL. CHIP	1MF	20%	16V	
C147	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C148	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C149	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C150	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C151	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C152	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C153	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C154	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C155	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C156	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C157	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C158	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C159	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C160	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C161	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C162	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C163	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C164	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C165	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C166	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C167	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C168	1-126-204-11	ELECT	47MF	20%	16V	
C169	1-110-666-11	ELECT CHIP	22MF	20%	6.3V	
C170	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C500	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V	
C501	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C502	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	

B

REF NO.	PART NO.	DESCRIPTION				REMARK
C503	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C504	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C505	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C506	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C507	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C508	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C509	1-110-666-11	ELECT CHIP	22MF	20%	6.3V	
C510	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C513	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C515	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C516	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C517	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C520	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C523	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V	
C524	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C525	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C526	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C527	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V	
C530	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C531	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C533	1-110-666-11	ELECT CHIP	22MF	20%	6.3V	
C534	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C535	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C536	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C538	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C539	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C540	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C541	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C542	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C543	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V	
C544	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C545	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V	
C546	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C547	1-110-666-11	ELECT CHIP	22MF	20%	6.3V	
C548	1-126-200-11	ELECT	10MF	20%	35V	
C549	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C550	1-136-177-00	FILM	1MF	5%	50V	
C551	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C552	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C554	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C555	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C556	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C557	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C558	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C559	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C560	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V	
C561	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C562	1-107-417-11	ELECT CHIP	33MF	20%	25V	
C563	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C564	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C565	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C566	1-126-200-11	ELECT	10MF	20%	35V	
C567	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C568	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C569	1-126-200-11	ELECT	10MF	20%	35V	
C570	1-136-177-00	FILM	1MF	5%	50V	
C571	1-107-417-11	ELECT CHIP	33MF	20%	25V	
C572	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C573	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C574	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C575	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	
C576	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C577	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C578	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C579	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C580	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C581	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C582	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C583	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C584	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C585	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C586	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C587	1-135-092-21	TANTAL. CHIP	3.3MF	20%	16V	
C588	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C589	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C590	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C591	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C592	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C593	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C594	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C595	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C596	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C597	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C598	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C599	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C600	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C601	1-126-935-11	ELECT	470MF	20%	16V	
C602	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C604	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C605	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C606	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C607	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C608	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C609	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C610	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C611	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C613	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C614	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C615	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C616	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C617	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C618	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C619	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C620	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C621	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C622	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C623	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C625	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C626	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C627	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C628	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C629	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C630	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C631	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C632	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C633	1-126-200-11	ELECT	10MF	20%	35V	
C634	1-128-004-11	ELECT CHIP	10MF	20%	16V	

B

REF NO.	PART NO.	DESCRIPTION				REMARK
C635	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C636	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C637	1-126-200-11	ELECT	10MF	20%	35V	
C638	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C639	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C640	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C641	1-126-200-11	ELECT	10MF	20%	35V	
C642	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C643	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C644	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C645	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C646	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C647	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C648	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C649	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C650	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C651	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C652	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C653	1-126-941-11	ELECT	470MF	20%	25V	
C654	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C655	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C656	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C657	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C658	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C659	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C660	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C661	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C662	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C663	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C664	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C665	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C666	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C667	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C668	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C669	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C670	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C672	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C674	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C675	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C677	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C678	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C679	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C680	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C682	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C683	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C701	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C702	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C703	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C704	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C705	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C706	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C708	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C710	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C711	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C713	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C750	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C751	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C752	1-163-085-00	CERAMIC CHIP	2PF	0.25PF	50V	

REF NO.	PART NO.	DESCRIPTION				REMARK
C753	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C754	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C755	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C756	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C757	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C758	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C759	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C760	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C761	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C762	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C763	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C764	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C765	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C766	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C767	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C801	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C802	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C803	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C804	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C805	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C806	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C808	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C810	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C811	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C813	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C850	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C851	1-163-085-00	CERAMIC CHIP	2PF	0.25PF	50V	
C852	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C853	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C854	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C856	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C857	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C858	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C859	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C860	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C861	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C862	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C863	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C864	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C865	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C866	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C867	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C868	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C901	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C902	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C903	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C904	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C905	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C906	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C908	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C910	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C911	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C913	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C950	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C951	1-163-085-00	CERAMIC CHIP	2PF	0.25PF	50V	
C952	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C953	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C954	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C955	1-128-004-11	ELECT CHIP	10MF	20%	16V	

B

REF NO.	PART NO.	DESCRIPTION	REMARK
C956	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C957	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C958	1-128-004-11	ELECT CHIP 10MF 20% 16V	
C959	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C960	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C961	1-128-004-11	ELECT CHIP 10MF 20% 16V	
C962	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C963	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C964	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C965	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C966	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
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CN35	* 1-564-948-21	PIN, CONNECTOR 3P	
CN36	* 1-564-948-21	PIN, CONNECTOR 3P	
CN37	* 1-564-948-21	PIN, CONNECTOR 3P	
CN38	* 1-564-948-21	PIN, CONNECTOR 3P	
CN39	* 1-564-948-21	PIN, CONNECTOR 3P	
CN40	* 1-564-948-21	PIN, CONNECTOR 3P	
CN431	* 1-766-305-11	PIN, PC CONNECTOR 96P	
CN432	* 1-764-790-11	SOCKET, CONNECTOR 80P	
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D100	8-719-801-78	DIODE 1SS184	
D101	8-719-801-78	DIODE 1SS184	
D102	8-719-801-78	DIODE 1SS184	
D103	8-719-801-78	DIODE 1SS184	
D104	8-719-105-82	DIODE RD5.1M-B2	
D105	8-719-801-78	DIODE 1SS184	
D500	8-719-800-76	DIODE 1SS226	
D501	8-719-800-76	DIODE 1SS226	
D502	8-719-800-76	DIODE 1SS226	
D503	8-719-800-76	DIODE 1SS226	
D504	8-719-801-78	DIODE 1SS184	
D505	8-719-800-76	DIODE 1SS226	
D506	8-719-801-78	DIODE 1SS184	
D507	8-719-801-78	DIODE 1SS184	
D602	8-719-800-76	DIODE 1SS226	
D700	8-719-800-76	DIODE 1SS226	
D703	8-719-801-78	DIODE 1SS184	
D750	8-719-801-78	DIODE 1SS184	
D751	8-719-801-78	DIODE 1SS184	
D752	8-719-801-78	DIODE 1SS184	
D753	8-719-801-78	DIODE 1SS184	
D754	8-719-801-78	DIODE 1SS184	
D755	8-719-800-76	DIODE 1SS226	
D756	8-719-801-78	DIODE 1SS184	
D757	8-719-801-78	DIODE 1SS184	
D758	8-719-801-78	DIODE 1SS184	
D759	8-719-800-76	DIODE 1SS226	
D760	8-719-801-78	DIODE 1SS184	
D800	8-719-800-76	DIODE 1SS226	
D803	8-719-801-78	DIODE 1SS184	
D850	8-719-801-78	DIODE 1SS184	
D851	8-719-801-78	DIODE 1SS184	
D852	8-719-801-78	DIODE 1SS184	
D853	8-719-801-78	DIODE 1SS184	
D854	8-719-801-78	DIODE 1SS184	

REF NO.	PART NO.	DESCRIPTION	REMARK
D855	8-719-800-76	DIODE 1SS226	
D856	8-719-801-78	DIODE 1SS184	
D857	8-719-801-78	DIODE 1SS184	
D858	8-719-801-78	DIODE 1SS184	
D859	8-719-800-76	DIODE 1SS226	
D860	8-719-801-78	DIODE 1SS184	
D900	8-719-800-76	DIODE 1SS226	
D903	8-719-801-78	DIODE 1SS184	
D950	8-719-801-78	DIODE 1SS184	
D951	8-719-801-78	DIODE 1SS184	
D952	8-719-801-78	DIODE 1SS184	
D953	8-719-801-78	DIODE 1SS184	
D954	8-719-801-78	DIODE 1SS184	
D955	8-719-801-78	DIODE 1SS184	
D956	8-719-801-78	DIODE 1SS184	
D957	8-719-800-76	DIODE 1SS226	
D958	8-719-801-78	DIODE 1SS184	
D959	8-719-800-76	DIODE 1SS226	
D960	8-719-801-78	DIODE 1SS184	
		< IC >	
IC100	8-759-251-32	IC NJM4200M	
IC101	8-759-251-32	IC NJM4200M	
IC102	8-759-251-32	IC NJM4200M	
IC103	8-759-925-72	IC SN74HC02ANS	
IC104	8-759-285-80	IC PC74HC164D-T	
IC105	8-759-981-48	IC TL082M	
IC106	8-759-981-48	IC TL082M	
IC107	8-759-981-48	IC TL082M	
IC108	8-759-981-48	IC TL082M	
IC109	8-759-981-48	IC TL082M	
IC110	8-759-981-48	IC TL082M	
IC111	8-759-300-71	IC HD14053BFP	
IC112	8-752-072-94	IC CXA1875AM-T4	
IC113	8-759-981-48	IC TL082M	
IC114	8-759-981-48	IC TL082M	
IC115	8-759-981-48	IC TL082M	
IC116	8-752-072-94	IC CXA1875AM-T4	
IC117	8-752-072-94	IC CXA1875AM-T4	
IC118	8-759-100-93	IC μPC393G2	
IC119	8-759-981-48	IC TL082M	
IC120	8-759-981-48	IC TL082M	
IC121	8-759-062-66	IC TC7S66F	
IC501	8-752-052-77	IC CXA1450M	
IC502	8-759-431-38	IC MAX4121CSA-TE2	
IC503	8-759-100-96	IC μPC4558G2	
IC504	8-759-457-54	IC AD835AR-REE	
IC506	8-752-052-77	IC CXA1450M	
IC507	8-759-431-38	IC MAX4121CSA-TE2	
IC508	8-759-100-96	IC μPC4558G2	
IC509	8-759-457-54	IC AD835AR-REE	
IC510	8-752-052-77	IC CXA1450M	
IC511	8-759-431-38	IC MAX4121CSA-TE2	
IC512	8-759-981-48	IC TL082M	
IC513	8-759-457-54	IC AD835AR-REE	
IC514	8-759-457-53	IC GS1881-CTA	
IC515	8-759-092-82	IC SN75157PS-ELL2000	
IC516	8-759-431-38	IC MAX4121CSA-TE2	
IC517	8-759-431-38	IC MAX4121CSA-TE2	

REF NO.	PART NO.	DESCRIPTION	REMARK
IC518	8-759-431-38	IC MAX4121CSA-TE2	
IC519	8-759-981-48	IC TL082M	
IC520	8-759-062-66	IC TC7S66F	
IC521	8-759-242-64	IC TC4W53F	
IC522	8-759-035-93	IC SC7S32F	
IC600	8-759-431-38	IC MAX4121CSA-TE2	
IC601	8-759-445-85	IC LM1283	
IC602	8-759-431-38	IC MAX4121CSA-TE2	
IC603	8-759-431-38	IC MAX4121CSA-TE2	
IC604	8-752-075-54	IC CXA3069S	
IC605	8-759-031-84	IC SC7S04F	
IC606	8-759-144-82	IC µPC2405HF	
IC607	8-759-431-39	IC MAX8213BCSE-TE2	
IC608	8-759-231-58	IC TA7812S	
IC609	8-759-231-58	IC TA7812S	
IC610	8-759-929-65	IC LM7912CT	
IC611	8-759-701-59	IC NJM78M09FA	
IC612	8-759-247-67	IC LM2990T-5.0	
IC613	8-759-448-65	IC EL2186CS-TE2	
IC614	8-759-448-65	IC EL2186CS-TE2	
IC615	8-759-448-65	IC EL2186CS-TE2	
IC616	8-759-234-20	IC TC7S08F	
IC617	8-759-031-84	IC SC7S04F	
IC618	8-759-031-84	IC SC7S04F	
IC619	8-759-035-93	IC SC7S32F	
IC700	8-759-448-64	IC EL2160CS-TE2	
IC750	8-759-448-64	IC EL2160CS-TE2	
IC800	8-759-448-64	IC EL2160CS-TE2	
IC850	8-759-448-64	IC EL2160CS-TE2	
IC900	8-759-448-64	IC EL2160CS-TE2	
IC950	8-759-448-64	IC EL2160CS-TE2	
		<JACK>	
J700	1-568-547-11	JACK, MINIATUER PIN	
J750	1-568-547-11	JACK, MINIATUER PIN	
J800	1-568-547-11	JACK, MINIATUER PIN	
J850	1-568-547-11	JACK, MINIATUER PIN	
J900	1-568-547-11	JACK, MINIATUER PIN	
J950	1-568-547-11	JACK, MINIATUER PIN	
		< COIL >	
L500	1-412-028-11	INDUCTOR CHIP 4.7µH	
L501	1-412-028-11	INDUCTOR CHIP 4.7µH	
L502	1-412-028-11	INDUCTOR CHIP 4.7µH	
L503	1-412-028-11	INDUCTOR CHIP 4.7µH	
L504	1-412-028-11	INDUCTOR CHIP 4.7µH	
L505	1-412-028-11	INDUCTOR CHIP 4.7µH	
L600	1-412-533-21	INDUCTOR 47µH	
L601	1-412-533-21	INDUCTOR 47µH	
L602	1-412-029-11	INDUCTOR CHIP 10µH	
L603	1-412-029-11	INDUCTOR CHIP 10µH	
L604	1-412-537-31	INDUCTOR 100µH	
		< TRANSISTOR >	
Q100	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q101	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q102	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q103	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	

REF NO.	PART NO.	DESCRIPTION	REMARK
Q104	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q105	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q106	8-729-216-22	TRANSISTOR 2SA1162-G	
Q107	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q108	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q109	8-729-216-22	TRANSISTOR 2SA1162-G	
Q110	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q111	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q112	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q113	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q114	8-729-216-22	TRANSISTOR 2SA1162-G	
Q115	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q116	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q500	8-729-302-77	TRANSISTOR 2SC1906	
Q501	8-729-116-04	TRANSISTOR 2SK160-K4	
Q502	8-729-302-77	TRANSISTOR 2SC1906	
Q503	8-729-116-04	TRANSISTOR 2SK160-K4	
Q504	8-729-302-77	TRANSISTOR 2SC1906	
Q505	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q506	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
Q508	8-729-116-04	TRANSISTOR 2SK160-K4	
Q511	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q512	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q513	8-729-216-22	TRANSISTOR 2SA1162-G	
Q514	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q515	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q516	8-729-216-22	TRANSISTOR 2SA1162-G	
Q517	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q518	8-729-101-07	TRANSISTOR 2SB798-DL	
Q519	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q520	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q604	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q605	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q606	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q607	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q608	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q609	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q651	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q702	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q703	8-729-015-06	TRANSISTOR 2SC2498	
Q704	8-729-031-16	TRANSISTOR 2SC4504E-TD	
Q705	8-729-041-08	TRANSISTOR 2SA1575E-TD	
Q706	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q707	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q750	8-729-129-54	TRANSISTOR 2SC2954	
Q751	8-729-129-54	TRANSISTOR 2SC2954	
Q752	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q753	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q754	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q755	8-729-015-06	TRANSISTOR 2SC2498	
Q756	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q757	8-729-145-13	TRANSISTOR 2SC3356-(R25)	
Q758	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q759	8-729-031-16	TRANSISTOR 2SC4504E-TD	
Q760	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q761	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q762	8-729-112-65	TRANSISTOR 2SA1462-Y33	

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REF NO.	PART NO.	DESCRIPTION				REMARK
Q763	8-729-041-08	TRANSISTOR	2SA1575E-TD			
Q764	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q765	8-729-216-22	TRANSISTOR	2SA1162-G			
Q766	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q802	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q803	8-729-015-06	TRANSISTOR	2SC2498			
Q804	8-729-031-16	TRANSISTOR	2SC4504E-TD			
Q805	8-729-041-08	TRANSISTOR	2SA1575E-TD			
Q806	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q807	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q850	8-729-129-54	TRANSISTOR	2SC2954			
Q851	8-729-129-54	TRANSISTOR	2SC2954			
Q852	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q853	8-729-107-31	TRANSISTOR	2SC3545-T1T44			
Q854	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q855	8-729-015-06	TRANSISTOR	2SC2498			
Q856	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q857	8-729-145-13	TRANSISTOR	2SC3356-(R25)			
Q858	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q859	8-729-031-16	TRANSISTOR	2SC4504E-TD			
Q860	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q861	8-729-107-31	TRANSISTOR	2SC3545-T1T44			
Q862	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q863	8-729-041-08	TRANSISTOR	2SA1575E-TD			
Q864	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q865	8-729-216-22	TRANSISTOR	2SA1162-G			
Q866	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q902	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q903	8-729-015-06	TRANSISTOR	2SC2498			
Q904	8-729-031-16	TRANSISTOR	2SC4504E-TD			
Q905	8-729-041-08	TRANSISTOR	2SA1575E-TD			
Q906	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q907	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q950	8-729-129-54	TRANSISTOR	2SC2954			
Q951	8-729-129-54	TRANSISTOR	2SC2954			
Q952	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q953	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q954	8-729-145-13	TRANSISTOR	2SC3356-(R25)			
Q955	8-729-107-31	TRANSISTOR	2SC3545-T1T44			
Q956	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q957	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q958	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q959	8-729-015-06	TRANSISTOR	2SC2498			
Q960	8-729-031-16	TRANSISTOR	2SC4504E-TD			
Q961	8-729-107-31	TRANSISTOR	2SC3545-T1T44			
Q962	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q963	8-729-041-08	TRANSISTOR	2SA1575E-TD			
Q964	8-729-112-65	TRANSISTOR	2SA1462-Y33			
Q965	8-729-216-22	TRANSISTOR	2SA1162-G			
Q966	8-729-112-65	TRANSISTOR	2SA1462-Y33			
		< RESISTOR >				
R100	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R101	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R102	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R103	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R104	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R105	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R106	1-216-693-11	METAL CHIP	56K	0.5%	1/10W	
R107	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R108	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R109	1-216-693-11	METAL CHIP	56K	0.5%	1/10W	
R110	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R111	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R112	1-216-693-11	METAL CHIP	56K	0.5%	1/10W	
R113	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R114	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R116	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R118	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R120	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R128	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R130	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R132	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R133	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R134	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R135	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R136	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R137	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R138	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R139	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R140	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R141	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R142	1-218-754-11	METAL CHIP	120K	0.5%	1/10W	
R143	1-218-754-11	METAL CHIP	120K	0.5%	1/10W	
R144	1-218-754-11	METAL CHIP	120K	0.5%	1/10W	
R145	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R146	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R147	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R148	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R149	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R150	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R151	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R152	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R153	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R154	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R155	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R156	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R157	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R158	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R159	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R160	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R161	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R162	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R163	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R164	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R165	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R166	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R167	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R168	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R169	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R170	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R171	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R173	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R174	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R176	1-216-673-11	METAL CHIP	4.7K	0.5%	1/10W	
R177	1-216-667-11	METAL CHIP	3.6K	0.5%	1/10W	
R178	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R179	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R180	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R182	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R183	1-216-664-11	METAL CHIP	3.6K	0.5%	1/10W	
R185	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R186	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R187	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R188	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R189	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R190	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R191	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R192	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R193	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R194	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R195	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R196	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R197	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R198	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R200	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R201	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R202	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R203	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R204	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R205	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R206	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R207	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R208	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R209	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R210	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R211	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R212	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R213	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R214	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R215	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R216	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R217	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R218	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R219	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R220	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R221	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R222	1-218-760-11	METAL CHIP	220K	0.5%	1/10W	
R223	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R224	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R225	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R226	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R227	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R228	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R229	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R230	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R231	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R232	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R233	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R234	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R235	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R236	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R237	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R238	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R239	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R240	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R242	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R243	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R244	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R245	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R246	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R247	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R248	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R249	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R250	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R251	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R252	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R253	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R254	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R255	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R256	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R257	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R258	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R259	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R260	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R261	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R262	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R263	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R264	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R265	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R266	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R267	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R269	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R270	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R271	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R272	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R273	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R274	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R275	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R276	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R277	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R278	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R279	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R280	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R281	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R282	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R283	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R284	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R285	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R287	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R500	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R501	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R502	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R503	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R504	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R505	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R506	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R507	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R508	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R509	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R510	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R511	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R512	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R513	1-216-615-11	METAL CHIP	33	0.5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R514	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R515	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R516	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R517	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R518	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R519	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R520	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R521	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R522	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R523	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R524	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R525	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R526	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R527	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R528	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R529	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R530	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R531	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R532	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R533	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R534	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R535	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R536	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R537	1-216-615-11	METAL CHIP	33	0.5%	1/10W	
R538	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R539	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R540	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R541	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R543	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R544	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R545	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R546	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R548	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R549	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R550	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R551	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R552	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R553	1-216-615-11	METAL CHIP	33	0.5%	1/10W	
R554	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R555	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R556	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R557	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R558	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R559	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R560	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R561	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R562	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R563	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R564	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R565	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R566	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R568	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R569	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R570	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R571	1-218-767-11	METAL CHIP	430K	0.5%	1/10W	
R572	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R573	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R574	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R576	1-216-089-91	METAL GLAZE	47K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R577	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R578	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R579	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R580	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R581	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R582	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R583	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R584	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R585	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R586	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R587	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R588	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R589	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R590	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R591	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R592	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R593	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R594	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R595	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R596	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R597	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R598	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R599	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R600	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R601	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R602	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R603	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R604	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R606	1-216-041-00	METAL CHIP	470	5%	1/10W	
R607	1-216-041-00	METAL CHIP	470	5%	1/10W	
R608	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R609	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R610	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R611	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R613	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R614	1-216-041-00	METAL CHIP	470	5%	1/10W	
R615	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R616	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R617	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R620	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R622	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R623	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R624	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R625	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R626	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R627	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R628	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R629	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R630	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R631	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R632	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R634	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R635	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R636	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R637	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R638	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R639	1-216-678-11	METAL CHIP	13K	0.5%	1/10W	
R640	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION			REMARK
R641	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R642	1-216-681-11	METAL CHIP	18K	0.5%	1/10W
R643	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R644	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R645	1-216-295-91	CONDUCTOR, CHIP (2012)			
R646	1-216-013-00	METAL GLAZE	33	5%	1/10W
R647	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R648	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R649	1-216-035-00	METAL GLAZE	270	5%	1/10W
R650	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R651	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R652	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R653	1-216-027-00	METAL GLAZE	120	5%	1/10W
R654	1-216-039-00	METAL GLAZE	390	5%	1/10W
R656	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R657	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R658	1-220-256-11	METAL GLAZE	75	5%	1/4W
R660	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R661	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R662	1-220-256-11	METAL GLAZE	75	5%	1/4W
R664	1-216-013-00	METAL GLAZE	33	5%	1/10W
R665	1-216-001-00	METAL GLAZE	10	5%	1/10W
R666	1-216-001-00	METAL GLAZE	10	5%	1/10W
R667	1-216-001-00	METAL GLAZE	10	5%	1/10W
R668	1-220-259-11	METAL GLAZE	150	5%	1/4W
R669	1-220-259-11	METAL GLAZE	150	5%	1/4W
R670	1-220-259-11	METAL GLAZE	150	5%	1/4W
R671	1-220-259-11	METAL GLAZE	150	5%	1/4W
R672	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R673	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R674	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R675	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R676	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R677	1-220-256-11	METAL GLAZE	75	5%	1/4W
R678	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R679	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R680	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R681	1-216-045-00	METAL GLAZE	680	5%	1/10W
R684	1-216-025-91	METAL GLAZE	100	5%	1/10W
R685	1-216-025-91	METAL GLAZE	100	5%	1/10W
R686	1-216-025-91	METAL GLAZE	100	5%	1/10W
R687	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R688	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R689	1-216-624-11	METAL CHIP	75	0.5%	1/10W
R690	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R691	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R692	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R693	1-216-025-91	METAL GLAZE	100	5%	1/10W
R694	1-216-013-00	METAL GLAZE	33	5%	1/10W
R695	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R696	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R697	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R698	1-216-013-00	METAL GLAZE	33	5%	1/10W
R699	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R701	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R702	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R703	1-216-045-00	METAL GLAZE	680	5%	1/10W
R704	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
R705	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R706	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R707	1-216-045-00	METAL GLAZE	680	5%	1/10W
R708	1-216-603-11	METAL CHIP	10	0.5%	1/10W
R709	1-216-641-11	METAL CHIP	390	5%	1/10W
R710	1-216-001-00	METAL GLAZE	10	5%	1/10W
R711	1-216-025-91	METAL GLAZE	100	5%	1/10W
R713	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R714	1-217-671-11	METAL GLAZE	1	5%	1/10W
R716	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R718	1-217-671-11	METAL GLAZE	1	5%	1/10W
R720	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W
R721	1-216-025-91	METAL GLAZE	100	5%	1/10W
R722	1-216-013-00	METAL GLAZE	33	5%	1/10W
R723	1-216-025-91	METAL GLAZE	100	5%	1/10W
R725	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R728	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W
R729	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W
R730	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W
R731	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W
R732	1-216-027-00	METAL GLAZE	120	5%	1/10W
R733	1-216-017-91	METAL GLAZE	47	5%	1/10W
R734	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R735	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R736	1-216-017-91	METAL GLAZE	47	5%	1/10W
R748	1-216-017-91	METAL GLAZE	47	5%	1/10W
R749	1-216-017-91	METAL GLAZE	47	5%	1/10W
R750	1-216-045-00	METAL GLAZE	680	5%	1/10W
R751	1-216-045-00	METAL GLAZE	680	5%	1/10W
R752	1-216-045-00	METAL GLAZE	680	5%	1/10W
R753	1-216-045-00	METAL GLAZE	680	5%	1/10W
R754	1-216-045-00	METAL GLAZE	680	5%	1/10W
R755	1-216-045-00	METAL GLAZE	680	5%	1/10W
R756	1-216-045-00	METAL GLAZE	680	5%	1/10W
R757	1-216-045-00	METAL GLAZE	680	5%	1/10W
R758	1-216-687-11	METAL CHIP	33K	0.5%	1/10W
R759	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R760	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R761	1-216-644-11	METAL CHIP	510	0.5%	1/10W
R762	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R764	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R765	1-216-646-11	METAL CHIP	620	0.5%	1/10W
R766	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R767	1-216-025-91	METAL GLAZE	100	5%	1/10W
R768	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R769	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R770	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R771	1-216-025-91	METAL GLAZE	100	5%	1/10W
R772	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R773	1-216-021-00	METAL GLAZE	68	5%	1/10W
R774	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R775	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R776	1-217-671-11	METAL GLAZE	1	5%	1/10W
R777	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R780	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R781	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R782	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R783	1-217-671-11	METAL GLAZE	1	5%	1/10W
R784	1-216-025-91	METAL GLAZE	100	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION				REMARK
R785	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R786	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R787	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R788	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R789	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R790	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R791	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R792	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R793	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R795	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R796	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R798	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R799	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R801	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R802	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R803	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R804	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R805	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R806	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R807	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R808	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R809	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R811	1-216-641-11	METAL CHIP	390	5%	1/10W	
R812	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R813	1-216-639-11	METAL CHIP	330	0.5%	1/10W	
R814	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R816	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R818	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R820	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R821	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R822	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R823	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R825	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R827	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R828	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R829	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R830	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R831	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R832	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R833	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R834	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R835	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R848	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R849	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R850	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R851	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R852	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R853	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R854	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R855	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R856	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R857	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R858	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R859	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R860	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R861	1-216-644-11	METAL CHIP	510	0.5%	1/10W	
R863	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R864	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R865	1-216-646-11	METAL CHIP	620	0.5%	1/10W	
R866	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R867	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R868	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R869	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R870	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R871	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R872	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R873	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R874	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R875	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R877	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R878	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R880	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R881	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R882	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R883	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R884	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R885	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R886	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R887	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R888	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R889	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R890	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R891	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R892	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R893	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R895	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R896	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R898	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R899	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R901	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R902	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R903	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R904	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R905	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R906	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R907	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R908	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R909	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R910	1-216-641-11	METAL CHIP	390	0.5%	1/10W	
R911	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R913	1-216-639-11	METAL CHIP	330	0.5%	1/10W	
R914	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R916	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R918	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R920	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R921	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R922	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R923	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R925	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R927	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R928	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R929	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R930	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R931	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R932	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R933	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R934	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R935	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R948	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R949	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R950	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R951	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R952	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R953	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R954	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R955	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R956	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R957	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R958	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R959	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R960	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R961	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R962	1-216-644-11	METAL CHIP	510	0.5%	1/10W	
R963	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R964	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R965	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R966	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R967	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R969	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R970	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R971	1-216-646-11	METAL CHIP	620	0.5%	1/10W	
R972	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R973	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R974	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R975	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R977	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R978	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R980	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R981	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R982	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R983	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R984	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R985	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R986	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R987	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R988	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R989	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R990	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R991	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R992	1-220-277-11	METAL GLAZE	2.2K	5%	1/4W	
R993	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R995	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R996	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R997	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R999	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
		< NETWORK >				
RB101	1-236-908-11	RES, CHIP NETWORK 10K (3216)				
RB102	1-236-908-11	RES, CHIP NETWORK 10K (3216)				
RB103	1-236-908-11	RES, CHIP NETWORK 10K (3216)				
		< VARIABLE RESISTOR >				
RV101	1-241-396-11	RES, ADJ, METAL GLAZE 22K				
RV501	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
RV600	1-241-395-11	RES, ADJ, METAL GLAZE 10K				
RV601	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				

REF NO.	PART NO.	DESCRIPTION				REMARK
RV602	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
RV603	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
RV750	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
RV850	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
RV950	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
		< TERMINAL BOARD >				
TB500	* 1-694-206-11	TERMINAL BOARD ASSY, I/O				
		< TEST PIN >				
TP100	* 1-535-877-22	CHIP, CHECKER				
TP101	* 1-535-877-22	CHIP, CHECKER				
TP102	* 1-535-877-22	CHIP, CHECKER				
TP103	* 1-535-877-22	CHIP, CHECKER				

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	* A-1135-879-A	BA COMPLETE PC BOARD (Include BH Mounted PC BOARD) ******************				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C1	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C2	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C4	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C5	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C6	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C7	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C100	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C101	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V	
C102	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C103	1-128-416-11	ELECT CHIP	100MF	20%	16V	
C104	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C105	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C106	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C108	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C111	1-128-006-11	ELECT CHIP	4.7MF	20%	25V	
C112	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C113	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C114	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C115	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C116	1-128-451-11	ELECT CHIP	22MF	20%	16V	
C117	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C118	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C119	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C120	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C121	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C122	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C123	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C125	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C126	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C127	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C128	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C129	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C130	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C131	1-128-004-11	ELECT CHIP	10MF	20%	16V	

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REF NO.	PART NO.	DESCRIPTION				REMARK
C132	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C133	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C134	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C135	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C136	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C137	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C138	1-128-416-11	ELECT CHIP	100MF	20%	16V	
C139	1-126-204-11	ELECT	47MF	20%	16V	
C140	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C141	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C142	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C143	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C144	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C150	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C200	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C201	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C202	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C203	1-126-204-11	ELECT	47MF	20%	16V	
C204	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C205	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C206	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
C207	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C208	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C209	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	
C210	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C211	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C212	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C213	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C218	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C219	1-126-935-11	ELECT	470MF	20%	16V	
C222	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C223	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C224	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C225	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C226	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C227	1-126-204-11	ELECT	47MF	20%	16V	
C228	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C230	1-128-006-11	ELECT CHIP	4.7MF	20%	25V	
C234	1-128-006-11	ELECT CHIP	4.7MF	20%	25V	
C235	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C240	1-126-204-11	ELECT	47MF	20%	16V	
C241	1-128-006-11	ELECT CHIP	4.7MF	20%	25V	
C247	1-128-006-11	ELECT CHIP	4.7MF	20%	25V	
C248	1-126-204-11	ELECT	47MF	20%	16V	
C249	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C251	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C252	1-126-204-11	ELECT	47MF	20%	16V	
C253	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C260	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C261	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C300	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C301	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C302	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C303	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C304	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C305	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C306	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C308	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C309	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C310	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C311	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C312	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C313	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C314	1-124-465-00	ELECT	0.47MF	20%	50V	
C315	1-124-465-00	ELECT	0.47MF	20%	50V	
C316	1-124-465-00	ELECT	0.47MF	20%	50V	
C317	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C318	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C319	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C321	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C322	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C323	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C324	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C325	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C326	1-126-204-11	ELECT	47MF	20%	16V	
C327	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C400	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C401	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C402	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C403	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C404	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C405	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C406	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C407	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C408	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C409	1-126-204-11	ELECT	47MF	20%	16V	
C410	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C411	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C412	1-128-416-11	ELECT CHIP	100MF	20%	16V	
C413	1-128-416-11	ELECT CHIP	100MF	20%	16V	
C414	1-128-416-11	ELECT CHIP	100MF	20%	16V	
C500	1-126-603-11	ELECT CHIP	4.7MF	20%	16V	
C501	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	
C502	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	
C503	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C504	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C505	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	
C506	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C507	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C508	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
C509	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C510	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C511	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C512	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C513	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C515	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C516	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C517	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C518	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C519	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C520	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C521	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C522	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C523	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C524	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C525	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C529	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	

REF NO.	PART NO.	DESCRIPTION	REMARK
C530	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C531	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
		< CONNECTOR >	
CN434	* 1-764-795-11	SOCKET, CONNECTOR 80P	
CN435	* 1-564-522-11	PLUG, CONNECTOR 7P	
CN438	1-564-729-11	PIN, CONNECTOR (SMALL TYPE)13P	
CN439	1-564-731-11	PIN, CONNECTOR (SMALL TYPE)15P	
		< DIODE >	
D100	8-719-801-78	DIODE 1SS184	
D200	8-719-801-78	DIODE 1SS184	
D201	8-719-801-78	DIODE 1SS184	
		< FILTER >	
FL100	1-239-397-11	FILTER, LOW PASS	
FL101	1-239-397-11	FILTER, LOW PASS	
FL102	1-239-397-11	FILTER, LOW PASS	
		< IC >	
IC2	8-759-008-45	IC MC74HC4538F	
IC3	8-759-927-72	IC TL1591CP	
IC4	8-759-926-18	IC SN74HC157ANS	
IC5	8-759-926-18	IC SN74HC157ANS	
IC6	8-759-175-04	IC PCF8574T-T	
IC7	8-759-175-04	IC PCF8574T-T	
IC100	8-759-711-62	IC NJM2240M	
IC101	8-759-710-29	IC NJM2235M	
IC102	8-752-372-78	IC CXD2024AQ	
IC103	8-752-068-45	IC CXA1855Q	
IC104	8-759-011-65	IC MC74HC4053F	
IC200	8-759-295-47	IC TDA9141-N2C	
IC201	8-759-288-85	IC TDA4665T-T	
IC202	8-759-335-58	IC MM1112XFF	
IC204	8-759-335-58	IC MM1112XFF	
IC300	8-752-072-88	IC CXA2011Q	
IC301	8-759-925-74	IC SN74HC04ANS	
IC400	8-752-070-54	IC CXA1839Q-T6	
IC500	8-752-073-52	IC CXA2016S	
IC501	8-759-926-18	IC SN74HC157ANS	
IC502	8-759-035-93	IC SC7S32F	
IC503	8-759-011-65	IC MC74HC4053F	
IC504	8-752-052-77	IC CXA1450M	
IC505	8-752-052-77	IC CXA1450M	
IC506	8-752-052-77	IC CXA1450M	
		< COIL >	
L100	1-412-058-11	INDUCTOR CHIP 10μH	
L101	1-412-058-11	INDUCTOR CHIP 10μH	
L102	1-412-058-11	INDUCTOR CHIP 10μH	
L105	1-412-058-11	INDUCTOR CHIP 10μH	
L200	1-412-064-11	INDUCTOR CHIP 100μH	
L201	1-412-058-11	INDUCTOR CHIP 10μH	
L202	1-412-064-11	INDUCTOR CHIP 100μH	
L204	1-412-058-11	INDUCTOR CHIP 10μH	
L205	1-412-058-11	INDUCTOR CHIP 10μH	
L206	1-412-064-11	INDUCTOR CHIP 100μH	
L207	1-412-796-41	INDUCTOR 47μH	
L300	1-412-058-11	INDUCTOR CHIP 10μH	
L400	1-412-058-11	INDUCTOR CHIP 10μH	
L401	1-412-533-21	INDUCTOR 47μH	
L402	1-412-533-21	INDUCTOR 47μH	
L403	1-412-533-21	INDUCTOR 47μH	
		< TRANSISTOR >	
Q101	8-729-216-22	TRANSISTOR 2SA1162-G	
Q102	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q103	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q104	8-729-216-22	TRANSISTOR 2SA1162-G	
Q105	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q106	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q107	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q108	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q109	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q110	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q111	8-729-216-22	TRANSISTOR 2SA1162-G	
Q112	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q113	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q114	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q115	8-729-216-22	TRANSISTOR 2SA1162-G	
Q116	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q117	8-729-216-22	TRANSISTOR 2SA1162-G	
Q118	8-729-216-22	TRANSISTOR 2SA1162-G	
Q119	8-729-216-22	TRANSISTOR 2SA1162-G	
Q200	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q201	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q202	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q203	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q205	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q206	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q211	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q212	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q300	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q301	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q302	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q400	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q401	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q402	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q403	8-729-026-57	TRANSISTOR FMS1A-T148	
Q404	8-729-026-57	TRANSISTOR FMS1A-T148	
Q405	8-729-026-57	TRANSISTOR FMS1A-T148	
Q406	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q500	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q501	8-729-216-22	TRANSISTOR 2SA1162-G	
Q502	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q503	8-729-216-22	TRANSISTOR 2SA1162-G	
Q504	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q505	8-729-216-22	TRANSISTOR 2SA1162-G	
Q506	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
Q508	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q509	8-729-216-22	TRANSISTOR 2SA1162-G	
Q510	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q511	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q512	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q515	8-729-216-22	TRANSISTOR 2SA1162-G	

BA

REF NO.	PART NO.	DESCRIPTION				REMARK
		< RESISTOR >				
R1	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R6	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R7	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R8	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R9	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R11	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R12	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R13	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R14	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R15	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R16	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R17	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R18	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R19	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R21	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R22	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R23	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R24	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R25	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R26	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R27	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R28	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R30	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R31	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R32	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R33	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R34	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R35	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R36	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R37	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R38	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R101	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R102	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R103	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R104	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R105	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R106	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R107	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R108	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R109	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R110	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R112	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R113	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R114	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R116	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R117	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R118	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R119	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R120	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R121	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R122	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R123	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R124	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R125	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R126	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R127	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R128	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R129	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R130	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R131	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R132	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R133	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R134	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R135	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R136	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R137	1-216-635-11	METAL CHIP	220	0.5%	1/10W	
R138	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R139	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R140	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R141	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R142	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R143	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R144	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R145	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R146	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R147	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R148	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R149	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R150	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R151	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R152	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R154	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R155	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R157	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R158	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R159	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R160	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R161	1-216-635-11	METAL CHIP	220	0.5%	1/10W	
R162	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R163	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R164	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R165	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R166	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R167	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R168	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R169	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R170	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R171	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R172	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R173	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R174	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R175	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R176	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R177	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R178	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R179	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R180	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R181	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R182	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R183	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R184	1-216-617-11	METAL CHIP	39	0.5%	1/10W	
R185	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION			REMARK
R186	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R187	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R188	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R189	1-216-017-91	METAL GLAZE	47	5%	1/10W
R190	1-216-025-91	METAL GLAZE	100	5%	1/10W
R191	1-216-025-91	METAL GLAZE	100	5%	1/10W
R192	1-216-025-91	METAL GLAZE	100	5%	1/10W
R193	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R194	1-216-017-91	METAL GLAZE	47	5%	1/10W
R195	1-216-633-11	METAL CHIP	180	0.5%	1/10W
R196	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R197	1-216-025-91	METAL GLAZE	100	5%	1/10W
R198	1-216-025-91	METAL GLAZE	100	5%	1/10W
R199	1-216-025-91	METAL GLAZE	100	5%	1/10W
R200	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R201	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R202	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R203	1-216-025-91	METAL GLAZE	100	5%	1/10W
R204	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R205	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R206	1-216-033-00	METAL GLAZE	220	5%	1/10W
R207	1-216-017-91	METAL GLAZE	47	5%	1/10W
R208	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R209	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R210	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R211	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R212	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R215	1-216-017-91	METAL GLAZE	47	5%	1/10W
R216	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R217	1-216-047-91	METAL GLAZE	820	5%	1/10W
R218	1-216-017-91	METAL GLAZE	47	5%	1/10W
R219	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R220	1-216-295-91	CONDUCTOR, CHIP (2012)			
R221	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R229	1-216-025-91	METAL GLAZE	100	5%	1/10W
R231	1-216-025-91	METAL GLAZE	100	5%	1/10W
R244	1-216-025-91	METAL GLAZE	100	5%	1/10W
R245	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R250	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R253	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R254	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R255	1-216-029-00	METAL GLAZE	150	5%	1/10W
R256	1-216-029-00	METAL GLAZE	150	5%	1/10W
R300	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R301	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R302	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R303	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R304	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R305	1-216-037-00	METAL GLAZE	330	5%	1/10W
R306	1-216-037-00	METAL GLAZE	330	5%	1/10W
R307	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R308	1-216-037-00	METAL GLAZE	330	5%	1/10W
R309	1-216-025-91	METAL GLAZE	100	5%	1/10W
R310	1-216-025-91	METAL GLAZE	100	5%	1/10W
R311	1-216-025-91	METAL GLAZE	100	5%	1/10W
R312	1-216-025-91	METAL GLAZE	100	5%	1/10W
R313	1-216-025-91	METAL GLAZE	100	5%	1/10W
R314	1-216-025-91	METAL GLAZE	100	5%	1/10W
R318	1-216-025-91	METAL GLAZE	100	5%	1/10W
R319	1-216-025-91	METAL GLAZE	100	5%	1/10W
R321	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R322	1-216-017-91	METAL GLAZE	47	5%	1/10W
R323	1-216-017-91	METAL GLAZE	47	5%	1/10W
R324	1-216-017-91	METAL GLAZE	47	5%	1/10W
R325	1-216-039-00	METAL GLAZE	390	5%	1/10W
R326	1-216-017-91	METAL GLAZE	47	5%	1/10W
R327	1-216-017-91	METAL GLAZE	47	5%	1/10W
R328	1-216-017-91	METAL GLAZE	47	5%	1/10W
R329	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R330	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R331	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R332	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R333	1-216-017-91	METAL GLAZE	47	5%	1/10W
R334	1-216-017-91	METAL GLAZE	47	5%	1/10W
R335	1-216-017-91	METAL GLAZE	47	5%	1/10W
R336	1-216-017-91	METAL GLAZE	47	5%	1/10W
R337	1-216-017-91	METAL GLAZE	47	5%	1/10W
R338	1-216-017-91	METAL GLAZE	47	5%	1/10W
R339	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R340	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R400	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R401	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R402	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W
R405	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R407	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R408	1-216-025-91	METAL GLAZE	100	5%	1/10W
R409	1-216-025-91	METAL GLAZE	100	5%	1/10W
R411	1-216-025-91	METAL GLAZE	100	5%	1/10W
R413	1-216-025-91	METAL GLAZE	100	5%	1/10W
R414	1-216-025-91	METAL GLAZE	100	5%	1/10W
R415	1-216-025-91	METAL GLAZE	100	5%	1/10W
R416	1-216-025-91	METAL GLAZE	100	5%	1/10W
R417	1-216-025-91	METAL GLAZE	100	5%	1/10W
R418	1-216-025-91	METAL GLAZE	100	5%	1/10W
R420	1-216-041-00	METAL GLAZE	470	5%	1/10W
R422	1-216-041-00	METAL GLAZE	470	5%	1/10W
R424	1-216-041-00	METAL GLAZE	470	5%	1/10W
R425	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R427	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R428	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R429	1-216-017-91	METAL GLAZE	47	5%	1/10W
R430	1-216-017-91	METAL GLAZE	47	5%	1/10W
R431	1-216-017-91	METAL GLAZE	47	5%	1/10W
R432	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R433	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R434	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R435	1-216-029-00	METAL GLAZE	150	5%	1/10W
R436	1-216-025-91	METAL GLAZE	100	5%	1/10W
R437	1-216-025-91	METAL GLAZE	100	5%	1/10W
R438	1-216-025-91	METAL GLAZE	100	5%	1/10W
R500	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R501	1-216-033-00	METAL GLAZE	220	5%	1/10W
R502	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R503	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R504	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R505	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R506	1-216-049-91	METAL GLAZE	1K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION				REMARK
R507	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R508	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R509	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R510	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R511	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R512	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R513	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R515	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R516	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R517	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R518	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R519	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R520	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R521	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R522	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R523	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R524	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R525	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R526	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R527	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R528	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R529	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R530	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R531	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R532	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R533	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R534	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R535	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R536	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R543	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R544	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R545	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R546	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R547	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R548	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R549	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R550	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R551	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R552	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R553	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R554	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R555	1-216-025-91	METAL GLAZE	100	5%	1/10W	
		< TEST PIN >				
TP401	* 1-535-877-22	CHIP, CHECKER				
TP402	* 1-535-877-22	CHIP, CHECKER				
TP403	* 1-535-877-22	CHIP, CHECKER				
TP404	* 1-535-877-22	CHIP, CHECKER				
TP405	* 1-535-877-22	CHIP, CHECKER				
TP406	* 1-535-877-22	CHIP, CHECKER				
TP407	* 1-535-877-22	CHIP, CHECKER				
TP408	* 1-535-877-22	CHIP, CHECKER				
TP409	* 1-535-877-22	CHIP, CHECKER				
TP410	* 1-535-877-22	CHIP, CHECKER				
TP411	* 1-535-877-22	CHIP, CHECKER				
		< CRYSTAL >				
X200	1-760-795-11	VIBRATOR, CRYSTAL (3.579545MHz)				
X201	1-760-796-11	VIBRATOR, CRYSTAL (4.433618MHz)				
X202	1-760-794-11	VIBRATOR, CRYSTAL (3.575611MHz)				

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* A-1131-254-A BC MOUNTED PC BOARD
(G70Q/G70QM, IFB-G70QMG)
****

REF NO.	PART NO.	DESCRIPTION				REMARK
		< CONNECTOR >				
CN437	1-564-510-11	PLUG, CONNECTOR 7P				
		< DIODE >				
D1001	8-719-106-53	DIODE RD10M-B2				
D1002	8-719-106-53	DIODE RD10M-B2				
D1003	8-719-106-53	DIODE RD10M-B2				
		< JACK >				
J1001	1-566-981-21	CONNECTOR, ROUND TYPE 4P				
J1002	1-566-980-31	CONNECTOR, ROUND TYPE 4P				
		< RESISTOR >				
R1001	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1005	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1006	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1007	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1008	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1009	1-216-029-00	METAL GLAZE	150	5%	1/10W	
		< TERMINAL BOARD >				
TB1001	* 1-694-229-11	TERMINAL BOARD ASSY, I/O				
TB1002	* 1-694-230-11	TERMINAL BOARD ASSY, I/O				

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* A-1131-271-A BH MOUNTED PC BOARD
****

REF NO.	PART NO.	DESCRIPTION				REMARK
		< CAPACITOR >				
C1	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
		< CONNECTOR >				
CN1	1-900-229-74	CONNECTOR 7P				
		< IC >				
IC1	8-759-082-61	IC TC4W53FU				
		< RESISTOR >				
R1	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R2	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	

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* A-1131-237-A BM MOUNTED PC BOARD
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* A-1335-078-A C COMPLETE PC BOARD
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REF NO.	PART NO.	DESCRIPTION	REMARK
	* 4-055-634-01	CASE (CA), SHIELD	
	* 4-056-039-01	HEAT SINK (CA)	
	* 4-056-040-01	HOLDER (A), PACK	
	* 4-056-061-01	HOLDER (B), PACK	
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)	
	7-682-552-04	SCREW +P 3X16	
	7-682-654-09	SCREW +PS 3X25	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
		< CAPACITOR >	
C101	1-124-779-00	ELECT 10MF 20% 16V	
C102	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C104	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C106	1-163-255-11	CERAMIC CHIP 150PF 5% 50V	
C108	1-102-050-00	CERAMIC 0.01MF 0.99 500V	
C109	1-107-746-11	ELECT 10MF 20% 200V	
C110	1-107-958-11	ELECT 2.2MF 20% 250V	
C111	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C112	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C113	1-126-395-11	ELECT 22MF 20% 16V	
C114	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C115	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C116	1-164-506-11	CERAMIC CHIP 4.7MF 16V	
C117	1-164-506-11	CERAMIC CHIP 4.7MF 16V	
C118	1-102-050-00	CERAMIC 0.01MF 0.99 500V	
C119	1-107-961-91	ELECT 10MF 20% 250V	
C151	1-124-779-00	ELECT 10MF 20% 16V	
C152	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C154	1-163-249-11	CERAMIC CHIP 82PF 5% 50V	
C158	1-102-050-00	CERAMIC 0.01MF 0.99 500V	
C159	1-107-943-11	ELECT 10MF 20% 160V	
C160	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C161	1-102-234-11	CERAMIC 270PF 10% 50V	
C162	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C163	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C164	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C165	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C166	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C167	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C168	1-104-660-11	ELECT 47MF 20% 16V	
C169	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C170	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C181	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C182	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C183	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C186	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C191	1-162-114-00	CERAMIC 0.0047MF 2KV	
C192	1-162-114-00	CERAMIC 0.0047MF 2KV	
C193	1-124-779-00	ELECT 10MF 20% 16V	
C194	1-126-395-11	ELECT 22MF 20% 16V	
C195	1-126-395-11	ELECT 22MF 20% 16V	
C196	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C197	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C198	1-164-506-11	CERAMIC CHIP 4.7MF 16V	
C199	1-164-506-11	CERAMIC CHIP 4.7MF 16V	
C200	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C201	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C202	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C203	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C212	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C213	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C215	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C216	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
		< CONNECTOR >	
CN154	1-691-756-11	PIN, CONNECTOR (PC BOARD) 2P	
CN155	* 1-691-961-11	PIN, CONNECTOR (PC BOARD) 2P	
CN156	* 1-564-520-11	PLUG, CONNECTOR 5P	
CN157	* 1-564-522-11	PLUG, CONNECTOR 7P	
CN158	* 1-564-521-11	PLUG, CONNECTOR 6P	
		< DIODE >	
D101	8-719-901-83	DIODE 1SS83	
D103	8-719-901-83	DIODE 1SS83	
D105	8-719-106-53	DIODE RD10M-B2	
D106	8-719-901-83	DIODE 1SS83	
D107	8-719-901-83	DIODE 1SS83	
D108	8-719-901-83	DIODE 1SS83	
D109	8-719-901-83	DIODE 1SS83	
D151	8-719-901-83	DIODE 1SS83	
D153	8-719-901-83	DIODE 1SS83	
D155	8-719-800-76	DIODE 1SS226	
D156	8-719-800-76	DIODE 1SS226	
D157	8-719-106-44	DIODE RD9.1M-B2	
D158	8-719-800-76	DIODE 1SS226	
D159	8-719-105-82	DIODE RD5.1M-B2	
D161	8-719-911-19	DIODE 1SS119-25	
D162	8-719-109-72	DIODE RD3.9ESB2	
D163	8-719-911-19	DIODE 1SS119-25	
D164	8-719-106-53	DIODE RD10M-B2	
D165	8-719-107-24	DIODE RD20M-B2	
		< FERRITE BEAD >	
FB102	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
		< FILTER >	
FL101	1-233-830-11	FILTER, EMI	
FL102	1-233-830-11	FILTER, EMI	
FL103	1-233-830-11	FILTER, EMI	
FL104	1-233-830-11	FILTER, EMI	
FL105	1-233-830-11	FILTER, EMI	
FL106	1-233-831-11	FILTER, EMI	
FL107	1-233-831-11	FILTER, EMI	
FL108	1-233-831-11	FILTER, EMI	
FL109	1-233-831-11	FILTER, EMI	
FL110	1-233-831-11	FILTER, EMI	
FL111	1-233-512-21	FILTER, EMI	
FL112	1-233-512-21	FILTER, EMI	
		< IC >	
IC101	8-749-923-01	IC VPH06	
IC102	8-759-710-78	IC NJM082BM-T1	
IC151	8-749-011-19	IC VPA15H	
IC152	8-749-011-45	IC NJL5152MD	
IC153	8-759-710-78	IC NJM082BM-T1	
IC154	8-759-710-78	IC NJM082BM-T1	
IC155	8-759-234-77	IC TC4S66F	

C **D**

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.	PART NO.	DESCRIPTION				REMARK
IC156	8-759-168-20	IC TA78L09S				
IC157	8-759-708-12	IC NJM78L12A				
IC158	8-759-700-69	IC NJM79L12A				
IC159	8-759-710-78	IC NJM082BM-T1				
IC161	8-759-448-64	IC EL2160CS-TE2				
IC162	8-759-448-64	IC EL2160CS-TE2				
		< JACK >				
J101	1-568-548-11	JACK, MINIATUER PIN				
J102	⚠ 1-251-493-11	SOCKET, CRT				
J151	1-568-548-11	JACK, MINIATUER PIN				
		< COIL >				
L101	1-412-533-21	INDUCTOR	47µH			
L102	1-414-137-31	INDUCTOR	0.22µH			
L151	1-412-533-21	INDUCTOR	47µH			
L152	1-414-137-31	INDUCTOR	0.22µH			
L153	1-414-137-31	INDUCTOR	0.22µH			
		< TRANSISTOR >				
Q101	8-729-116-05	TRANSISTOR 2SK160-K5				
Q102	8-729-801-88	TRANSISTOR 2SA1381-E				
Q103	8-729-821-02	TRANSISTOR 2SC3503-DE				
Q104	8-729-804-63	TRANSISTOR 2SA1406-E				
Q105	8-729-107-31	TRANSISTOR 2SC3545-T1T44				
Q106	8-729-027-59	TRANSISTOR DTC144EKA-T146				
		< RESISTOR >				
R101	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R102	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R103	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R104	1-216-615-11	METAL CHIP	33	0.5%	1/10W	
R106	1-216-607-11	METAL CHIP	15	0.5%	1/10W	
R107	1-249-405-11	CARBON	100	5%	1/4W	F
R109	1-215-493-00	METAL	1M	1%	1/4W	
R110	1-215-471-00	METAL	120K	1%	1/4W	
R111	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R112	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R113	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R114	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R115	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R116	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R117	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R118	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R119	1-215-461-11	METAL	47K	1%	1/4W	
R120	1-247-887-00	CARBON	220K	5%	1/4W	
R121	1-202-535-00	SOLID	27	20%	1/2W	
R140	1-202-818-00	SOLID	1K	20%	1/2W	
R141	1-202-838-00	SOLID	100K	20%	1/2W	
R142	1-259-884-11	CARBON	4.7M	5%	1/4W	
R143	1-247-735-11	SOLID	47	20%	1/2W	
R151	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R152	1-216-631-11	METAL CHIP	150	0.5%	1/10W	
R153	1-216-025-11	METAL GLAZE	100	5%	1/10W	
R154	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R157	1-249-398-11	CARBON	27	5%	1/4W	F
R161	1-247-903-00	CARBON	1M	5%	1/4W	
R162	1-216-025-91	METAL GLAZE	100	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R163	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R164	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R166	1-216-649-11	METAL CHIP	820	0.5%	1/10W	
R167	1-218-760-11	METAL CHIP	220K	0.5%	1/10W	
R170	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R171	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R172	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R173	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R174	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R175	1-216-621-11	METAL CHIP	56	0.5%	1/10W	
R176	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R177	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R178	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R179	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R180	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R181	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R182	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R183	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R184	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R190	1-202-549-00	SOLID	100	20%	1/2W	
R201	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R203	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R204	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R206	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R221	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R223	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R224	1-216-649-11	METAL CHIP	820	0.5%	1/10W	
R226	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R227	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R228	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV101	1-237-516-21	RES, ADJ, CERMET 2K				
RV102	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
RV103	1-241-394-11	RES, ADJ, METAL GLAZE 4.7K				
		< SPARK GAP >				
SG101	1-519-422-11	GAP, SPARK				
SG102	1-519-422-11	GAP, SPARK				
SG103	1-519-422-11	GAP, SPARK				

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REF NO.	PART NO.	DESCRIPTION
	* A-1346-532-A	D COMPLETE PC BOARD ***********************
	1-923-510-48	WIRE UL1007 AWG24 110MM BRN
	1-923-510-49	WIRE UL1007 AWG24 130MM YEL
	1-923-510-50	WIRE UL1007 AWG24 130MM WHT
	1-923-510-51	WIRE UL1007 AWG24 90MM BLU
	1-923-510-52	WIRE UL1007 AWG24 80MM VIO
	1-923-510-53	WIRE UL1007 AWG24 60MM WHT
	1-923-510-54	WIRE UL1007 AWG24 60MM YEL
	1-923-510-55	WIRE UL1007 AWG24 40MM VIO
	1-923-510-56	WIRE UL1007 AWG24 120MM ORG
	1-923-510-57	WIRE UL1007 AWG24 120MM RED
	1-923-510-58	WIRE UL1007 AWG24 40MM BRN
	4-382-854-11	SCREW (M3X10), P, SW (+)
	* 4-395-527-01	HOLDER (B), TR
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)

REF NO.	PART NO.	DESCRIPTION	REMARK
		< CAPACITOR >	
C1	1-126-968-11	ELECT 100MF 20% 50V	
C2	1-126-933-11	ELECT 100MF 20% 16V	
C3	1-126-968-11	ELECT 100MF 20% 50V	
C4	1-126-933-11	ELECT 100MF 20% 16V	
C5	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C6	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C7	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C8	1-126-964-11	ELECT 10MF 20% 50V	
C9	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C10	1-126-960-11	ELECT 1MF 20% 50V	
C11	1-136-153-00	FILM 0.01MF 5% 50V	
C12	1-126-960-11	ELECT 1MF 20% 50V	
C13	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C14	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C15	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C16	1-126-964-11	ELECT 10MF 20% 50V	
C17	1-126-960-11	ELECT 1MF 20% 50V	
C18	1-136-153-00	FILM 0.01MF 5% 50V	
C19	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C20	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C21	1-126-960-11	ELECT 1MF 20% 50V	
C22	1-126-967-11	ELECT 47MF 20% 16V	
C23	1-126-961-11	ELECT 2.2MF 20% 50V	
C24	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C25	1-126-960-11	ELECT 1MF 20% 50V	
C26	1-136-153-00	FILM 0.01MF 5% 50V	
C27	1-126-960-11	ELECT 1MF 20% 50V	
C28	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C29	1-126-964-11	ELECT 10MF 20% 50V	
C30	1-126-960-11	ELECT 1MF 20% 50V	
C31	1-136-153-00	FILM 0.01MF 5% 50V	
C32	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C33	1-126-963-11	ELECT 4.7MF 20% 50V	
C34	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C35	1-137-366-11	FILM 0.0022MF 5% 50V	
C37	1-126-967-11	ELECT 47MF 20% 16V	
C38	1-136-165-00	FILM 0.1MF 5% 50V	
C39	1-126-964-11	ELECT 10MF 20% 50V	
C40	1-126-963-11	ELECT 4.7MF 20% 50V	
C41	1-137-366-11	FILM 0.0022MF 5% 50V	
C42	1-107-487-11	FILM 0.001MF 5% 50V	
C43	1-107-487-11	FILM 0.001MF 5% 50V	
C44	1-126-965-11	ELECT 22MF 20% 50V	
C45	1-126-961-11	ELECT 2.2MF 20% 50V	
C46	1-126-935-11	ELECT 470MF 20% 16V	
C47	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C48	1-126-960-11	ELECT 1MF 20% 50V	
C49	1-136-159-00	FILM 0.033MF 5% 50V	
C50	1-126-961-11	ELECT 2.2MF 20% 50V	
C51	1-126-961-11	ELECT 2.2MF 20% 50V	
C54	1-136-165-00	FILM 0.1MF 5% 50V	
C55	1-126-960-11	ELECT 1MF 20% 50V	
C56	1-137-364-11	FILM 0.001MF 5% 50V	
C57	1-136-157-00	FILM 0.022MF 5% 50V	
C58	1-126-934-11	ELECT 220MF 20% 16V	
C59	1-126-964-11	ELECT 10MF 20% 50V	
C60	1-163-253-11	CERAMIC CHIP 120PF 5% 50V	

REF NO.	PART NO.	DESCRIPTION	REMARK
C61	1-126-959-11	ELECT 0.47MF 20% 50V	
C62	1-126-963-11	ELECT 4.7MF 20% 50V	
C63	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C64	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C65	1-126-963-11	ELECT 4.7MF 20% 50V	
C66	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C67	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C68	1-137-194-11	FILM 0.47MF 5% 50V	
C69	1-126-933-11	ELECT 100MF 20% 16V	
C70	1-126-960-11	ELECT 1MF 20% 50V	
C71	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C72	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C73	1-126-933-11	ELECT 100MF 20% 16V	
C75	1-136-159-00	FILM 0.033MF 5% 50V	
C76	1-136-155-00	FILM 0.015MF 5% 50V	
C77	1-136-165-00	FILM 0.1MF 5% 50V	
C78	1-126-960-11	ELECT 1MF 20% 50V	
C79	1-136-161-00	FILM 0.047MF 5% 50V	
C80	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C81	1-126-959-11	ELECT 0.47MF 20% 50V	
C82	1-126-963-11	ELECT 4.7MF 20% 50V	
C83	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C84	1-126-964-11	ELECT 10MF 20% 50V	
C85	1-126-967-11	ELECT 47MF 20% 16V	
C86	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C87	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C88	1-126-933-11	ELECT 100MF 20% 16V	
C89	1-126-514-11	ELECT 22MF 20% 16V	
C90	1-126-964-11	ELECT 10MF 20% 50V	
C91	1-126-964-11	ELECT 10MF 20% 50V	
C92	1-136-153-00	FILM 0.01MF 5% 50V	
C93	1-126-964-11	ELECT 10MF 20% 50V	
C94	1-126-964-11	ELECT 10MF 20% 50V	
C95	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C96	1-126-964-11	ELECT 10MF 20% 50V	
C97	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C98	1-126-964-11	ELECT 10MF 20% 50V	
C99	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C100	1-126-964-11	ELECT 10MF 20% 50V	
C101	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C102	1-126-964-11	ELECT 10MF 20% 50V	
C103	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C104	1-126-964-11	ELECT 10MF 20% 50V	
C105	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C106	1-126-964-11	ELECT 10MF 20% 50V	
C107	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C108	1-126-964-11	ELECT 10MF 20% 50V	
C109	1-126-964-11	ELECT 10MF 20% 50V	
C110	1-126-964-11	ELECT 10MF 20% 50V	
C111	1-126-964-11	ELECT 10MF 20% 50V	
C112	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C113	1-136-155-00	FILM 0.015MF 5% 50V	
C114	1-136-159-00	FILM 0.033MF 5% 50V	
C115	1-136-165-00	FILM 0.1MF 5% 50V	
C116	1-126-960-11	ELECT 1MF 20% 50V	
C117	1-136-161-00	FILM 0.047MF 5% 50V	
C118	1-126-959-11	ELECT 0.47MF 20% 50V	
C119	1-126-963-11	ELECT 4.7MF 20% 50V	
C120	1-163-031-11	CERAMIC CHIP 0.01MF 50V	

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REF NO.	PART NO.	DESCRIPTION				REMARK
C121	1-126-964-11	ELECT	10MF	20%	50V	
C122	1-126-963-11	ELECT	4.7MF	20%	50V	
C123	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C124	1-126-964-11	ELECT	10MF	20%	50V	
C129	1-126-968-11	ELECT	100MF	20%	50V	
C130	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C131	1-126-968-11	ELECT	100MF	20%	50V	
C132	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C133	1-126-964-11	ELECT	10MF	20%	50V	
C134	1-126-964-11	ELECT	10MF	20%	50V	
C135	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C136	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C137	1-126-960-11	ELECT	1MF	20%	50V	
C138	1-126-964-11	ELECT	10MF	20%	50V	
C139	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C140	1-126-964-11	ELECT	10MF	20%	50V	
C141	1-126-964-11	ELECT	10MF	20%	50V	
C142	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C143	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C144	1-126-964-11	ELECT	10MF	20%	50V	
C145	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C147	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C148	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C150	1-126-791-11	ELECT	10MF	20%	16V	
C201	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C242	1-137-368-11	FILM	0.0047MF	5%	50V	
C301	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C302	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C303	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C304	1-126-933-11	ELECT	100MF	20%	16V	
C305	1-126-934-11	ELECT	220MF	20%	16V	
C306	1-126-964-11	ELECT	10MF	20%	50V	
C307	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C308	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C309	1-126-964-11	ELECT	10MF	20%	50V	
C310	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C314	1-126-964-11	ELECT	10MF	20%	50V	
C450	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C801	1-126-963-11	ELECT	4.7MF	20%	50V	
C802	1-126-967-11	ELECT	47MF	20%	16V	
C803	1-126-963-11	ELECT	4.7MF	20%	50V	
C804	1-126-967-11	ELECT	47MF	20%	16V	
C805	1-126-964-11	ELECT	10MF	20%	50V	
C806	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C807	1-136-159-00	FILM	0.033MF	5%	50V	
C808	1-136-155-00	FILM	0.015MF	5%	50V	
C809	1-136-165-00	FILM	0.1MF	5%	50V	
C810	1-126-965-11	ELECT	22MF	20%	50V	
C811	1-126-960-11	ELECT	1MF	20%	50V	
C812	1-126-967-11	ELECT	47MF	20%	16V	
C813	1-126-963-11	ELECT	4.7MF	20%	50V	
C814	1-126-964-11	ELECT	10MF	20%	50V	
C815	1-126-967-11	ELECT	47MF	20%	16V	
C816	1-126-967-11	ELECT	47MF	20%	16V	
C817	1-136-165-00	FILM	0.1MF	5%	50V	
C818	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C819	1-136-157-00	FILM	0.022MF	5%	50V	
C820	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C821	1-126-968-11	ELECT	100MF	20%	50V	
C822	1-136-111-00	FILM	1MF	5%	200V	
C823	1-126-963-11	ELECT	4.7MF	20%	50V	
C824	1-136-165-00	FILM	0.1MF	5%	50V	
C825	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C826	1-136-157-00	FILM	0.022MF	5%	50V	
C827	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C828	1-126-968-11	ELECT	100MF	20%	50V	
C829	1-136-111-00	FILM	1MF	5%	200V	
C830	1-126-963-11	ELECT	4.7MF	20%	50V	
C831	1-136-165-00	FILM	0.1MF	5%	50V	
C832	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C833	1-136-157-00	FILM	0.022MF	5%	50V	
C834	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C835	1-126-968-11	ELECT	100MF	20%	50V	
C836	1-136-111-00	FILM	1MF	5%	200V	
C837	1-126-963-11	ELECT	4.7MF	20%	50V	
C838	1-126-967-11	ELECT	47MF	20%	16V	
C839	1-126-960-11	ELECT	1MF	20%	50V	
C840	1-126-933-11	ELECT	100MF	20%	16V	
C841	1-126-960-11	ELECT	1MF	20%	50V	
C842	1-126-967-11	ELECT	47MF	20%	50V	
C843	1-126-935-11	ELECT	470MF	20%	16V	
C844	1-126-963-11	ELECT	4.7MF	20%	50V	
C845	1-126-935-11	ELECT	470MF	20%	16V	
C855	1-136-165-00	FILM	0.1MF	5%	50V	
C856	1-136-165-00	FILM	0.1MF	5%	50V	
C857	1-136-165-00	FILM	0.1MF	5%	50V	
C858	1-136-165-00	FILM	0.1MF	5%	50V	
C859	1-136-165-00	FILM	0.1MF	5%	50V	
C860	1-136-165-00	FILM	0.1MF	5%	50V	
C861	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C862	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C864	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C865	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1100	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1101	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1103	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1104	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1107	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1108	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1200	1-136-153-00	FILM	0.01MF	5%	50V	
C1201	1-126-791-11	ELECT	10MF	20%	16V	
C1302	1-136-485-11	FILM	0.01MF	5%	50V	
		< CONNECTOR >				
CN361	1-695-989-11	SOCKET, CONNECTOR 40P				
		< DIODE >				
D1	8-719-900-95	DIODE	V09G			
D2	8-719-900-95	DIODE	V09G			
D3	8-719-801-78	DIODE	1SS184			
D4	8-719-106-71	DIODE	RD12M-B2			
D5	8-719-801-78	DIODE	1SS184			
D6	8-719-801-78	DIODE	1SS184			
D7	8-719-801-78	DIODE	1SS184			
D8	8-719-911-19	DIODE	1SS119-25			
D9	8-719-801-78	DIODE	1SS184			
D10	8-719-801-78	DIODE	1SS184			

REF NO.	PART NO.	DESCRIPTION	REMARK
D11	8-719-800-76	DIODE 1SS226	
D12	8-719-801-78	DIODE 1SS184	
D13	8-719-800-76	DIODE 1SS226	
D14	8-719-801-78	DIODE 1SS184	
D15	8-719-800-76	DIODE 1SS226	
D16	8-719-900-95	DIODE V09G	
D17	8-719-900-95	DIODE V09G	
D18	8-719-801-78	DIODE 1SS184	
D101	8-719-921-19	DIODE 1SS119-25	
D301	8-719-801-78	DIODE 1SS184	
D302	8-719-801-78	DIODE 1SS184	
D303	8-719-801-78	DIODE 1SS184	
D304	8-719-801-78	DIODE 1SS184	
D801	8-719-900-95	DIODE V09G	
D802	8-719-900-95	DIODE V09G	
D803	8-719-801-78	DIODE 1SS184	
D804	8-719-900-95	DIODE V09G	
D805	8-719-900-95	DIODE V09G	
D806	8-719-900-95	DIODE V09G	
D807	8-719-900-95	DIODE V09G	
D808	8-719-900-95	DIODE V09G	
D809	8-719-800-76	DIODE 1SS226	
D810	8-719-801-78	DIODE 1SS184	
D811	8-719-801-78	DIODE 1SS184	
D812	8-719-801-78	DIODE 1SS184	
D813	8-719-801-78	DIODE 1SS184	
D814	8-719-801-78	DIODE 1SS184	
D815	8-719-800-76	DIODE 1SS226	
D816	8-719-800-76	DIODE 1SS226	
D817	8-719-800-76	DIODE 1SS226	
D818	8-719-800-76	DIODE 1SS226	
D819	8-719-800-76	DIODE 1SS226	
D820	8-719-110-08	DIODE RD8.2ESB2	
D821	8-719-911-19	DIODE 1SS119-25	
		<IC>	
IC1	8-759-231-58	IC TA7812S	
IC2	8-759-700-69	IC NJM79L12A	
IC3	8-759-300-78	IC HD14538BFP	
IC4	8-759-100-96	IC µPC4558G2	
IC5	8-759-300-78	IC HD14538BFP	
IC6	8-759-100-96	IC µPC4558G2	
IC7	8-759-300-78	IC HD14538BFP	
IC8	8-759-381-53	IC µPC814G2-E2	
IC9	8-759-100-93	IC µPC393G2	
IC10	8-749-010-15	IC MC-8639A	
IC11	8-759-100-60	IC µPC1377C	
IC12	8-759-300-78	IC HD14538BFP	
IC13	8-759-381-53	IC µPC814G2-E2	
IC14	8-759-381-53	IC µPC814G2-E2	
IC15	8-759-381-53	IC µPC814G2-E2	
IC16	8-759-031-84	IC SC7S04F	
IC17	8-752-065-69	IC CXA1470AS	
IC18	8-759-381-53	IC µPC814G2-E2	
IC19	8-759-381-53	IC µPC814G2-E2	
IC20	8-759-100-96	IC µPC4558G2	
IC21	8-759-381-53	IC µPC814G2-E2	
IC22	8-752-068-37	IC CXA1726AM	
IC23	8-759-381-53	IC µPC814G2-E2	
IC24	8-752-068-37	IC CXA1726AM	
IC25	8-752-068-37	IC CXA1726AM	
IC26	8-752-068-37	IC CXA1726AM	
IC27	8-759-381-53	IC µPC814G2-E2	
IC28	8-752-068-37	IC CXA1726AM	
IC29	8-759-381-53	IC µPC814G2-E2	
IC30	8-752-065-69	IC CXA1470AS	
IC31	8-759-457-55	IC AD835AR-REE	
IC32	8-759-232-86	IC TC74HC238AF	
IC33	8-759-925-76	IC SN74HC08ANS	
IC34	8-759-925-76	IC SN74HC08ANS	
IC35	8-759-144-82	IC µPC2405HF	
IC36	8-759-247-67	IC LM2990T-5.0	
IC37	8-759-457-55	IC AD835AR-REE	
IC38	8-759-381-53	IC µPC814G2-E2	
IC301	8-759-326-65	IC MP7670AS-TE2	
IC302	8-759-326-65	IC MP7670AS-TE2	
IC303	8-759-326-65	IC MP7670AS-TE2	
IC304	8-759-326-65	IC MP7670AS-TE2	
IC305	8-759-326-65	IC MP7670AS-TE2	
IC306	8-759-326-65	IC MP7670AS-TE2	
IC307	8-759-326-65	IC MP7670AS-TE2	
IC308	8-759-326-65	IC MP7670AS-TE2	
IC309	8-759-326-65	IC MP7670AS-TE2	
IC310	8-759-326-65	IC MP7670AS-TE2	
IC311	8-759-326-65	IC MP7670AS-TE2	
IC312	8-759-326-65	IC MP7670AS-TE2	
IC313	8-759-326-65	IC MP7670AS-TE2	
IC314	8-759-326-65	IC MP7670AS-TE2	
IC315	8-759-326-65	IC MP7670AS-TE2	
IC316	8-759-326-65	IC MP7670AS-TE2	
IC317	8-759-326-65	IC MP7670AS-TE2	
IC318	8-759-326-65	IC MP7670AS-TE2	
IC319	8-759-326-65	IC MP7670AS-TE2	
IC320	8-759-326-65	IC MP7670AS-TE2	
IC321	8-759-326-65	IC MP7670AS-TE2	
IC322	8-759-326-65	IC MP7670AS-TE2	
IC323	8-759-326-65	IC MP7670AS-TE2	
IC324	8-759-326-65	IC MP7670AS-TE2	
IC325	8-759-326-65	IC MP7670AS-TE2	
IC326	8-759-326-65	IC MP7670AS-TE2	
IC327	8-759-326-65	IC MP7670AS-TE2	
IC328	8-759-326-65	IC MP7670AS-TE2	
IC329	8-759-326-65	IC MP7670AS-TE2	
IC330	8-759-326-65	IC MP7670AS-TE2	
IC331	8-759-326-65	IC MP7670AS-TE2	
IC332	8-759-326-65	IC MP7670AS-TE2	
IC333	8-759-326-65	IC MP7670AS-TE2	
IC334	8-759-326-65	IC MP7670AS-TE2	
IC335	8-759-326-65	IC MP7670AS-TE2	
IC336	8-759-326-65	IC MP7670AS-TE2	
IC337	8-759-381-53	IC µPC814G2-E2	
IC338	8-759-443-72	IC RH5VL43AA-T1	
IC339	8-759-443-72	IC RH5VL43AA-T1	
IC340	8-759-908-15	IC TL431CLP	
IC341	8-759-381-53	IC µPC814G2-E2	
IC342	8-752-068-37	IC CXA1726AM	
IC343	8-752-068-37	IC CXA1726AM	
IC344	8-759-926-05	IC SN74HC125ANS	

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REF NO.	PART NO.	DESCRIPTION	REMARK
IC345	8-759-381-53	IC μPC814G2-E2	
IC346	8-759-381-53	IC μPC814G2-E2	
IC347	8-759-381-53	IC μPC814G2-E2	
IC348	8-759-381-53	IC μPC814G2-E2	
IC349	8-759-381-53	IC μPC814G2-E2	
IC350	8-759-381-53	IC μPC814G2-E2	
IC351	8-759-381-53	IC μPC814G2-E2	
IC352	8-759-381-53	IC μPC814G2-E2	
IC353	8-759-381-53	IC μPC814G2-E2	
IC354	8-759-326-65	IC MP7670AS-TE2	
IC355	8-759-326-65	IC MP7670AS-TE2	
IC801	8-759-144-82	IC μPC2405HF	
IC802	8-759-247-67	IC LM2990T-5.0	
IC803	8-752-065-69	IC CXA1470AS	
IC804	8-759-100-96	IC μPC4558G2	
IC805	8-759-100-96	IC μPC4558G2	
IC806	8-759-908-15	IC TL431CLP	
IC807	8-759-443-72	IC RH5VL43AA-T1	
IC808	8-759-326-65	IC MP7670AS-TE2	
IC809	8-759-326-65	IC MP7670AS-TE2	
IC810	8-759-326-65	IC MP7670AS-TE2	
IC811	8-759-100-96	IC μPC4558G2	
IC812	8-759-113-13	IC μPC1498H	
IC813	8-759-100-96	IC μPC4558G2	
IC814	8-759-113-13	IC μPC1498H	
IC815	8-759-100-96	IC μPC4558G2	
IC816	8-759-113-13	IC μPC1498H	
IC817	8-759-231-58	IC TA7812S	
IC818	8-759-701-88	IC NJM7912FA	
IC819	8-759-100-96	IC μPC4558G2	
IC820	8-759-100-93	IC μPC393G2	
IC821	8-759-326-65	IC MP7670AS-TE2	
IC822	8-759-100-96	IC μPC4558G2	
IC823	8-759-100-96	IC μPC4558G2	
IC824	8-759-100-96	IC μPC4558G2	
IC1100	8-759-326-65	IC MP7670AS-TE2	
IC1101	8-759-381-53	IC μPC814G2-E2	
IC1102	8-759-100-96	IC μPC4558G2	
IC1103	8-759-326-65	IC MP7670AS-TE2	
IC1104	8-759-381-53	IC μPC814G2-E2	
IC1105	8-759-326-65	IC MP7670AS-TE2	
IC1107	8-759-381-53	IC μPC814G2-E2	
IC1108	8-759-326-65	IC MP7670AS-TE2	
		< COIL >	
L1	1-412-533-21	INDUCTOR 47μH	
L2	1-412-533-21	INDUCTOR 47μH	
L801	1-412-533-21	INDUCTOR 47μH	
L804	1-412-533-21	INDUCTOR 47μH	
L805	1-412-533-21	INDUCTOR 47μH	
		< TRANSISTOR >	
Q1	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q2	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q4	8-729-216-22	TRANSISTOR 2SA1162-G	
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q6	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q7	8-729-904-04	TRANSISTOR FMS2	
Q8	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q9	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q10	8-729-216-22	TRANSISTOR 2SA1162-G	
Q11	8-729-105-74	TRANSISTOR 2SK523-M1	
Q12	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q13	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q14	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q15	8-729-216-22	TRANSISTOR 2SA1162-G	
Q16	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q17	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q18	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q19	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q20	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q21	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q22	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q23	8-729-904-04	TRANSISTOR FMS2	
Q24	8-729-926-23	TRANSISTOR FMW5	
Q25	8-729-216-22	TRANSISTOR 2SA1162-G	
Q26	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q27	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q28	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q29	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q30	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q31	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q32	8-729-216-22	TRANSISTOR 2SA1162-G	
Q33	8-729-105-74	TRANSISTOR 2SK523-M1	
Q34	8-729-926-23	TRANSISTOR FMW5	
Q35	8-729-216-22	TRANSISTOR 2SA1162-G	
Q36	8-729-026-57	TRANSISTOR FMS1A-T148	
Q37	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q38	8-729-926-23	TRANSISTOR FMW5	
Q39	8-729-216-22	TRANSISTOR 2SA1162-G	
Q40	8-729-026-57	TRANSISTOR FMS1A-T148	
Q41	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q42	8-729-026-57	TRANSISTOR FMS1A-T148	
Q43	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q44	8-729-026-57	TRANSISTOR FMS1A-T148	
Q45	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q46	8-729-926-23	TRANSISTOR FMW5	
Q47	8-729-216-22	TRANSISTOR 2SA1162-G	
Q48	8-729-926-23	TRANSISTOR FMW5	
Q49	8-729-216-22	TRANSISTOR 2SA1162-G	
Q50	8-729-926-23	TRANSISTOR FMW5	
Q51	8-729-216-22	TRANSISTOR 2SA1162-G	
Q52	8-729-026-57	TRANSISTOR FMS1A-T148	
Q53	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q54	8-729-926-23	TRANSISTOR FMW5	
Q55	8-729-216-22	TRANSISTOR 2SA1162-G	
Q56	8-729-026-57	TRANSISTOR FMS1A-T148	
Q57	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q58	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q59	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q60	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q201	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q801	8-729-216-22	TRANSISTOR 2SA1162-G	
Q802	8-729-026-57	TRANSISTOR FMS1A-T148	
Q804	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q805	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	

REF NO.	PART NO.	DESCRIPTION				REMARK
Q806	8-729-038-82	TRANSISTOR 2SK2251-01				
Q807	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q808	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q809	8-729-038-82	TRANSISTOR 2SK2251-01				
Q810	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q811	8-729-038-82	TRANSISTOR 2SK2251-01				
Q812	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q813	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q814	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q815	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q816	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q817	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q818	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q819	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q820	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q821	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q822	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q823	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q824	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q825	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q826	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q827	8-729-926-23	TRANSISTOR FMW5				
		< RESISTOR >				
R1	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R4	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R5	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R6	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R8	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R9	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R10	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R11	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R12	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R13	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R14	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R15	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R16	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R17	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R18	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R19	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R20	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R21	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R22	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R23	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R24	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R25	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R26	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R27	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R28	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R29	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R30	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R31	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R32	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R33	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R34	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R35	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R37	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R38	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R39	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R40	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R41	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R42	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R43	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R44	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R45	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R46	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R47	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R48	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R49	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R50	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R51	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R52	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R53	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R54	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R55	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R56	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R57	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R58	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R59	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R61	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R62	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R66	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R67	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R68	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R69	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R70	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R71	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R72	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R73	1-216-697-91	METAL CHIP	82K	0.5%	1/10W	
R74	1-216-697-91	METAL CHIP	82K	0.5%	1/10W	
R75	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R76	1-216-697-91	METAL CHIP	82K	0.5%	1/10W	
R77	1-216-697-91	METAL CHIP	82K	0.5%	1/10W	
R78	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	
R79	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R80	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R81	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R82	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R83	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R84	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R85	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R86	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R87	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R88	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R89	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R90	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R91	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R92	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R93	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R94	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R97	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R98	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R99	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R100	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R101	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R102	1-216-031-00	METAL GLAZE	180	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R103	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R104	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R106	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R107	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R108	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R109	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R110	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R111	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R112	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R113	1-216-649-11	METAL CHIP	820	0.5%	1/10W	
R114	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R115	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R116	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R117	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R118	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R119	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R120	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R121	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R122	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R123	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R124	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R125	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R126	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R127	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R128	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R129	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R130	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R131	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R132	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R133	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R134	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R135	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R136	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R137	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R138	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R139	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R140	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R141	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R142	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R143	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R144	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R145	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R146	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R147	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R148	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R149	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R150	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R151	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R152	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R153	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R154	1-216-692-11	METAL CHIP	51K	0.5%	1/10W	
R155	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R156	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R157	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R158	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R159	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R160	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R161	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R162	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R163	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R164	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R165	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R166	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R167	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R168	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R169	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R170	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R171	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R172	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R173	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R174	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R175	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R176	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	
R177	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R178	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R179	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R180	1-247-855-31	CARBON	10K	5%	1/4W	
R181	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R182	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R183	1-247-855-11	CARBON	10K	5%	1/4W	
R184	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R185	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R186	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R187	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R188	1-216-641-11	METAL CHIP	390	0.5%	1/10W	
R189	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R190	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R191	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	
R192	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R193	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R194	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R195	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R196	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R197	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R198	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R199	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R200	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R201	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R202	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R203	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R204	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R205	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R206	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R207	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R208	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R209	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R210	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R211	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R212	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R213	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R214	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R215	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R216	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R217	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R218	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R219	1-216-025-91	METAL GLAZE	100	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R220	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R221	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R222	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R223	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R224	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R225	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R226	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R227	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R228	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R229	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R230	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R234	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R235	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R236	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R237	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R238	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R239	1-216-658-11	METAL CHIP	2K	0.5%	1/10W	
R240	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R241	1-216-658-11	METAL CHIP	2K	0.5%	1/10W	
R242	1-216-658-11	METAL CHIP	2K	0.5%	1/10W	
R244	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R245	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R246	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R247	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R253	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R254	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R255	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R256	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R257	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R258	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R259	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R260	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R261	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R262	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R263	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R264	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R265	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R266	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R267	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R268	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R269	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R270	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R271	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R272	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	
R273	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R274	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R275	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R276	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R277	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R278	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R280	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R281	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R282	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R283	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R284	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R285	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R286	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R287	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R288	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R289	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R291	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R292	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R293	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R294	1-216-692-11	METAL CHIP	51K	0.5%	1/10W	
R295	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R296	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R297	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R298	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R299	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R300	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R301	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R302	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R303	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R304	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R305	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R306	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R307	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R308	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R309	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R310	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R311	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R312	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R313	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R314	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R315	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R316	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R317	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R318	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R319	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R320	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R321	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R322	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R323	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R324	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R325	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R326	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R327	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R328	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R329	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R330	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R331	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R332	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R333	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R334	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R335	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R336	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R337	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R338	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R339	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R340	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R341	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R342	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R343	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R344	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R345	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R346	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R347	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R348	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R349	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R350	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R351	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R352	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R353	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R354	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R355	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R356	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R357	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R358	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R359	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R360	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R361	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R362	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R363	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R364	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R365	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R366	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R367	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R368	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R369	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R370	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R371	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R372	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R373	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R374	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R375	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R379	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R380	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R381	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R382	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R383	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R384	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R385	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R386	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R387	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R388	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R392	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R393	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R394	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R395	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R396	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R397	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R398	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R399	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R400	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R401	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R402	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R403	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R404	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R405	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R406	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R407	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R408	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R409	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R410	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R411	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R412	1-216-025-91	METAL GLAZE	100	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R413	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R414	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R415	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R416	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R417	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R418	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R419	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R420	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R421	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R422	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R423	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R424	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R425	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R426	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R427	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R428	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R429	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R430	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R431	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R432	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R433	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R434	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R435	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R436	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R437	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R438	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R439	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R440	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R441	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R442	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R443	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R444	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R445	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R446	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R447	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R448	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R449	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R450	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R451	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R452	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R453	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R454	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R455	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R456	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R457	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R458	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R459	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R460	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R461	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R462	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R463	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R464	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R465	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R466	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R467	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R468	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R469	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R470	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R471	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R472	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R473	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R474	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R475	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R476	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R477	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R478	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R479	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R480	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R481	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R482	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R483	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R484	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R485	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R486	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R487	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R488	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R489	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R490	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R491	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R492	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R493	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R494	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R495	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R496	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R497	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R498	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R499	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R500	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R501	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R502	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R503	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R504	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R505	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R506	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R507	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R508	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R509	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R510	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R511	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R512	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R513	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R514	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R515	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R516	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R517	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R518	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R519	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R520	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R521	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R522	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R523	1-216-695-11	METAL CHIP	68K	0.5%	1/10W	
R524	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R525	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R526	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R527	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R528	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R529	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R530	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R531	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R532	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R533	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R534	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R535	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R536	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R537	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R538	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R539	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R540	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R541	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R542	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R543	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R544	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R545	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R546	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R547	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R548	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R549	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R550	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R551	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R552	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R553	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R554	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R555	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R556	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R557	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R558	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R559	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R560	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R561	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R562	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R563	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R564	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R565	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R566	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R567	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R568	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R569	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R570	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R571	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R572	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R573	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R574	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R575	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R576	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R577	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R578	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R579	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R580	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R581	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R582	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R583	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R584	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R585	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R586	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R587	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R588	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R589	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R590	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R591	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R592	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R593	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R594	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R595	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R596	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R597	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R598	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R599	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R600	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R601	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R602	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R603	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R604	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R605	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R606	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R607	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R608	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R609	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R610	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R611	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R612	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R613	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R614	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R615	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R616	1-216-611-11	METAL CHIP	22	0.5%	1/10W	
R617	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R618	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R619	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R620	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R621	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R622	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R623	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R624	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R625	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R626	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R627	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R628	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R629	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R630	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R631	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R632	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R633	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R634	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R635	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R636	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R637	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R638	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R639	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R640	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R641	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R642	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R643	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R644	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R645	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R646	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R647	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R648	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R649	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R650	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R651	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R652	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R653	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R654	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R655	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R656	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R657	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R658	1-216-657-11	METAL CHIP	1.8K	0.5%	1/10W	
R659	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R660	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R661	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R662	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R663	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R664	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R665	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R666	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R667	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R668	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R669	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W	
R670	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R671	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R672	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R673	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R674	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R675	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R677	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R678	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R679	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R680	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R681	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R682	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R683	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R684	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R685	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R686	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R687	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R688	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R689	1-216-617-11	METAL CHIP	39	0.5%	1/10W	
R690	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R691	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R692	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R693	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R694	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R695	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R696	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R697	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R698	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R699	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R700	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R701	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R702	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	
R703	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R704	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	
R705	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R706	1-216-627-11	METAL CHIP	100	0.5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R707	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R708	1-216-295-91	CONDUCTOR. CHIP (2012)				
R709	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R710	1-216-295-91	CONDUCTOR, CHIP (2012)				
R711	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R712	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R713	1-247-807-31	CARBON	100	5%	1/4W	
R714	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R715	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R716	1-247-807-31	CARBON	100	5%	1/4W	
R717	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R718	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R719	1-247-807-31	CARBON	100	5%	1/4W	
R720	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R721	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R722	1-247-807-31	CARBON	100	5%	1/4W	
R723	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R724	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R725	1-247-807-31	CARBON	100	5%	1/4W	
R726	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R727	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R728	1-247-807-31	CARBON	100	5%	1/4W	
R729	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R730	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R731	1-247-807-31	CARBON	100	5%	1/4W	
R732	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R733	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R734	1-247-807-31	CARBON	100	5%	1/4W	
R735	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R736	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R737	1-247-807-31	CARBON	100	5%	1/4W	
R738	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R739	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R740	1-247-807-31	CARBON	100	5%	1/4W	
R741	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R742	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R743	1-247-807-31	CARBON	100	5%	1/4W	
R744	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R745	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R746	1-247-807-31	CARBON	100	5%	1/4W	
R747	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R748	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R749	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R750	1-247-807-31	CARBON	100	5%	1/4W	
R751	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R752	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R753	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R754	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R755	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R756	1-247-807-31	CARBON	100	5%	1/4W	
R757	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R758	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R759	1-247-807-31	CARBON	100	5%	1/4W	
R760	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R761	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R762	1-247-807-31	CARBON	100	5%	1/4W	
R763	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R764	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R765	1-247-807-31	CARBON	100	5%	1/4W	
R766	1-247-807-31	CARBON	100	5%	1/4W	
R767	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R768	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R769	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R770	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R771	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R772	1-216-119-00	METAL GLAZE	820K	5%	1/10W	
R774	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R775	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R776	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R777	1-216-295-91	CONDUCTOR, CHIP (2012)				
R778	1-216-295-91	CONDUCTOR, CHIP (2012)				
R779	1-216-295-91	CONDUCTOR, CHIP (2012)				
R780	1-216-295-91	CONDUCTOR, CHIP (2012)				
R781	1-216-295-91	CONDUCTOR, CHIP (2012)				
R782	1-216-295-91	CONDUCTOR, CHIP (2012)				
R783	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R784	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R785	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R786	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	
R787	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R788	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R789	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R790	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R791	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R792	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R793	1-218-754-11	METAL CHIP	120K	0.5%	1/10W	
R794	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R795	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R796	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R797	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R798	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R799	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R801	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R802	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R803	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R804	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R805	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R806	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R807	1-216-645-11	METAL CHIP	560	0.5%	1/10W	
R808	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R809	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R810	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R811	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R812	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R813	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R814	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R815	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R816	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R817	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R818	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R819	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R820	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R821	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R822	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R823	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R824	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R825	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R826	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R827	1-216-692-11	METAL CHIP	51K	0.5%	1/10W	
R828	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R829	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R830	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R831	1-218-768-11	METAL CHIP	470K	0.5%	1/10W	
R832	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R833	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R834	1-218-768-11	METAL CHIP	470K	0.5%	1/10W	
R835	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R836	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R837	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R838	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R839	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R840	1-218-764-11	METAL CHIP	330K	0.5%	1/10W	
R841	1-218-764-11	METAL CHIP	330K	0.5%	1/10W	
R842	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R843	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R844	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R845	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R846	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R847	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R848	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R849	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R850	1-218-764-11	METAL CHIP	330K	0.5%	1/10W	
R851	1-218-764-11	METAL CHIP	330K	0.5%	1/10W	
R852	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R853	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R854	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R855	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R856	1-218-754-11	METAL CHIP	120K	0.5%	1/10W	
R857	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W	
R858	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W	
R859	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W	
R860	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R861	1-218-768-11	METAL CHIP	470K	0.5%	1/10W	
R862	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R863	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R864	1-218-764-11	METAL CHIP	330K	0.5%	1/10W	
R865	1-218-764-11	METAL CHIP	330K	0.5%	1/10W	
R866	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R867	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R868	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R869	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R870	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R871	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R872	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R873	1-216-693-11	METAL CHIP	56K	0.5%	1/10W	
R874	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R875	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R876	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R877	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R878	1-214-800-11	METAL	2.2	1%	1/2W	
R879	1-214-800-11	METAL	2.2	1%	1/2W	
R880	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R881	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R882	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R883	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R884	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R885	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R886	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R887	1-216-693-11	METAL CHIP	56K	0.5%	1/10W	
R888	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R889	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R890	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R891	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R892	1-214-800-11	METAL	2.2	1%	1/2W	
R893	1-214-800-11	METAL	2.2	1%	1/2W	
R894	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R895	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R896	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R897	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R898	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R899	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R900	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R901	1-216-693-11	METAL CHIP	56K	0.5%	1/10W	
R902	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R903	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R904	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R905	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R906	1-214-800-11	METAL	2.2	1%	1/2W	
R907	1-214-800-11	METAL	2.2	1%	1/2W	
R908	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R909	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R910	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R911	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R912	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R913	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R914	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R915	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R916	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R917	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R918	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R919	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R920	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R921	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R922	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R923	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R924	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R925	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R926	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R927	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R928	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R929	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R930	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R931	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R932	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R933	1-214-804-11	METAL	3.3	1%	1/2W	
R934	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R935	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R936	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R937	1-214-804-11	METAL	3.3	1%	1/2W	
R938	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R939	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R940	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R941	1-214-804-11	METAL	3.3	1%	1/2W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R942	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R943	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R944	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R945	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R946	1-214-804-11	METAL	3.3	1%	1/2W	
R947	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R948	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R949	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R950	1-214-804-11	METAL	3.3	1%	1/2W	
R951	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R952	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R953	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R954	1-214-804-11	METAL	3.3	1%	1/2W	
R955	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R956	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R960	1-218-754-11	METAL CHIP	120K	0.5%	1/10W	
R961	1-218-754-11	METAL CHIP	120K	0.5%	1/10W	
R962	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R963	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R964	1-218-756-11	METAL CHIP	150K	0.5%	1/10W	
R965	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R966	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R967	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R969	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R970	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R971	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R972	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R973	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R974	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R975	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R976	1-249-417-11	CARBON	1K	5%	1/4W	
R977	1-249-417-11	CARBON	1K	5%	1/4W	
R978	1-249-417-11	CARBON	1K	5%	1/4W	
R979	1-249-417-11	CARBON	1K	5%	1/4W	
R980	1-249-417-11	CARBON	1K	5%	1/4W	
R981	1-249-417-11	CARBON	1K	5%	1/4W	
R982	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W	
R983	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R984	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R985	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R986	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1005	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R1006	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R1007	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1008	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1009	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1010	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1011	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1101	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1102	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1103	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1104	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1105	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R1106	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1107	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1109	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R1111	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R1112	1-216-627-11	METAL CHIP	100	0.5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R1115	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1116	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R1117	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1119	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1120	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R1121	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1122	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1123	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1124	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1125	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1126	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1127	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1128	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1129	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1130	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1131	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1133	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1134	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1135	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R1142	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1143	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1144	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1145	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1146	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1148	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1149	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1150	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1151	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R1153	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1154	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1155	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R1156	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R1157	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1158	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1159	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R1161	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1163	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1164	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1165	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1166	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R1167	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R1169	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R1171	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R1175	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1181	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R1182	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1184	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R1187	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R1188	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R1189	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R1195	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R1196	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R1197	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1198	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R1199	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R1200	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R1201	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1202	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R1300	1-247-839-31	CARBON	2.2K	5%	1/4W	

D **DB** **DC**

REF NO.	PART NO.	DESCRIPTION			REMARK
R1301	1-247-855-31	CARBON	10K	5%	1/4W
R1302	1-247-855-31	CARBON	10K	5%	1/4W
R1303	1-249-417-11	CARBON	1K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1	1-238-789-11	RES, ADJ, CERMET 50K			
RV2	1-238-787-11	RES, ADJ, CERMET 10K			
RV3	1-238-787-11	RES, ADJ, CERMET 10K			
RV4	1-238-790-11	RES, ADJ, CERMET 100K			
RV5	1-238-785-21	RES, ADJ, CERMET 2K			
RV6	1-238-789-11	RES, ADJ, CERMET 50K			
RV7	1-238-789-11	RES, ADJ, CERMET 50K			
RV8	1-238-789-11	RES, ADJ, CERMET 50K			
		< RELAY >			
RY801	1-515-716-11	RELAY (TQ2-5V)			
RY802	1-515-716-11	RELAY (TQ2-5V)			
RY803	1-515-716-11	RELAY (TQ2-5V)			
		< SWITCH >			
S1	1-570-865-11	SWITCH, SLIDE			
S2	1-570-865-11	SWITCH, SLIDE			
		< TEST PIN >			
TP1	1-537-864-11	PIN, POST			
TP2	1-537-864-11	PIN, POST			
TP3	1-537-864-11	PIN, POST			
TP4	1-537-864-11	PIN, POST			
TP5	1-537-864-11	PIN, POST			
TP6	1-537-864-11	PIN, POST			
TP7	1-537-864-11	PIN, POST			
TP301	1-537-864-11	PIN, POST			
TP302	1-537-864-11	PIN, POST			
TP303	1-537-864-11	PIN, POST			
TP304	1-537-864-11	PIN, POST			
TP305	1-537-864-11	PIN, POST			
TP306	1-537-864-11	PIN, POST			
TP307	1-537-864-11	PIN, POST			
TP308	1-537-864-11	PIN, POST			
TP309	1-537-864-11	PIN, POST			
**					
	* A-1343-190-A	DB MOUNTED PC BOARD ******************			
	1-900-229-26	CONNECTOR ASSY 8P			
		< CONNECTOR >			
CN242	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN243	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN244	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN245	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN246	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN247	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN701	* 1-564-507-11	PLUG, CONNECTOR 4P			
		< RESISTOR >			
R2001	1-216-025-91	METAL GLAZE	100	5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
R2002	1-216-025-91	METAL GLAZE	100	5%	1/10W
		< SWITCH >			
S2001	1-571-729-11	SWITCH, SLIDE			
S2002	1-570-245-11	SWITCH, MICRO			
**					
	* A-1346-533-A	DC COMPLETE PC BOARD (Include DCR Mounted PC BOARD) ******************			
	1-900-229-33	CONNECTOR ASSY, MICRO 6P			
	3-701-809-31	SCREW, TERMINAL (M3X8)			
	7-682-550-04	SCREW, TERMINAL (M3X12)			
	* 4-056-076-01	PIN, GUIDE			
	4-056-102-01	LOCK, CARD			
	7-626-317-21	PIN, SPRING 2.5X8			
	7-628-254-30	SCREW +PS 2.6X10			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
	* 7-322-065-72	RUBBER, RTV (SE-9168)(30G)			
		< CAPACITOR >			
C1	1-128-563-11	ELECT	100MF	20%	100V
C2	1-128-563-11	ELECT	100MF	20%	100V
C3	1-128-563-11	ELECT	100MF	20%	100V
C4	1-102-050-00	CERAMIC	0.01MF	0.99	500V
C5	1-101-004-00	CERAMIC	0.01MF		50V
C6	1-102-050-00	CERAMIC	0.01MF	0.99	500V
C7	1-101-004-00	CERAMIC	0.01MF		50V
C8	1-101-004-00	CERAMIC	0.01MF		50V
C9	1-101-004-00	CERAMIC	0.01MF		50V
C10	1-101-004-00	CERAMIC	0.01MF		50V
C11	1-102-050-00	CERAMIC	0.01MF	0.99	500V
C12	1-101-004-00	CERAMIC	0.01MF		50V
C13	1-101-004-00	CERAMIC	0.01MF		50V
C14	1-101-004-00	CERAMIC	0.01MF		50V
C15	1-126-964-11	ELECT	10MF	20%	50V
C16	1-128-563-11	ELECT	100MF	20%	100V
C17	1-126-964-11	ELECT	10MF	20%	50V
C18	1-126-933-11	ELECT	100MF	20%	16V
C20	1-102-050-00	CERAMIC	0.01MF	0.99	500V
C21	1-128-564-11	ELECT	220MF	20%	100V
C22	1-126-933-11	ELECT	100MF	20%	16V
C23	1-128-564-11	ELECT	220MF	20%	100V
C24	1-126-964-11	ELECT	10MF	20%	50V
C25	1-126-964-11	ELECT	10MF	20%	50V
C26	1-101-004-00	CERAMIC	0.01MF		50V
C27	1-101-004-00	CERAMIC	0.01MF		50V
C28	1-101-880-00	CERAMIC	47PF	5%	50V
C29	1-101-880-00	CERAMIC	47PF	5%	50V
C30	1-128-579-11	ELECT	2.2MF	20%	100V
C31	1-128-579-11	ELECT	2.2MF	20%	100V
C32	1-102-050-00	CERAMIC	0.01MF	0.99	500V
C33	1-102-824-00	CERAMIC	470PF	5%	50V
C34	1-128-563-11	ELECT	100MF	20%	100V
C35	1-102-050-00	CERAMIC	0.01MF	0.99	500V
C36	1-102-824-00	CERAMIC	470PF	5%	50V
C37	1-128-563-11	ELECT	100MF	20%	100V
C38	1-162-318-11	CERAMIC	0.001MF	10%	500V

REF NO.	PART NO.	DESCRIPTION				REMARK
C39	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
C40	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C41	1-102-852-91	CERAMIC	47PF	5%	50V	
C42	1-128-563-11	ELECT	100MF	20%	100V	
C43	1-102-824-00	CERAMIC	470PF	5%	50V	
C44	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
C45	1-128-563-11	ELECT	100MF	20%	100V	
C46	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C47	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C48	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C49	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
C50	1-102-852-91	CERAMIC	47PF	5%	50V	
C51	1-128-563-11	ELECT	100MF	20%	100V	
C52	1-102-824-00	CERAMIC	470PF	5%	50V	
C53	1-102-824-00	CERAMIC	470PF	5%	50V	
C54	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C55	1-102-824-00	CERAMIC	470PF	5%	50V	
C56	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
C57	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C58	1-128-563-11	ELECT	100MF	20%	100V	
C59	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C60	1-102-824-00	CERAMIC	470PF	5%	50V	
C61	1-102-824-00	CERAMIC	470PF	5%	50V	
C62	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C63	1-102-852-91	CERAMIC	47PF	5%	50V	
C64	1-102-852-91	CERAMIC	47PF	5%	50V	
C65	1-102-852-91	CERAMIC	47PF	5%	50V	
C66	1-102-852-91	CERAMIC	47PF	5%	50V	
C67	1-102-824-00	CERAMIC	470PF	5%	50V	
C68	1-102-824-00	CERAMIC	470PF	5%	50V	
C69	1-102-824-00	CERAMIC	470PF	5%	50V	
C70	1-102-824-00	CERAMIC	470PF	5%	50V	
C71	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C72	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
C73	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C74	1-128-563-11	ELECT	100MF	20%	100V	
C75	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
C76	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C77	1-128-563-11	ELECT	100MF	20%	100V	
C78	1-126-933-11	ELECT	100MF	20%	16V	
		< CONNECTOR >				
CN302	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P				
CN303	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P				
CN304	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P				
CN305	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P				
CN306	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P				
CN307	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P				
		< DIODE >				
D1	8-719-109-85	DIODE RD5.1ESB2				
D2	8-719-109-85	DIODE RD5.1ESB2				
D3	8-719-109-85	DIODE RD5.1ESB2				
D4	8-719-109-85	DIODE RD5.1ESB2				
D17	8-719-911-19	DIODE 1SS119-25				
D18	8-719-911-19	DIODE 1SS119-25				

REF NO.	PART NO.	DESCRIPTION				REMARK
		< IC >				
IC1	8-759-103-93	IC µPC393C				
IC2	8-759-103-93	IC µPC393C				
IC3	8-749-012-58	IC STK392-220				
IC4	8-749-012-58	IC STK392-220				
		< COIL >				
L1	1-406-975-21	COIL, CHOKE 47µH				
L2	1-406-975-21	COIL, CHOKE 47µH				
L3	1-406-975-21	COIL, CHOKE 47µH				
L4	1-406-975-21	COIL, CHOKE 47µH				
		< TRANSISTOR >				
Q1	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q2	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q3	8-729-030-03	TRANSISTOR DTC144ESA-TP				
Q4	8-729-030-03	TRANSISTOR DTC144ESA-TP				
Q5	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q6	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q7	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q8	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q9	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q10	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q11	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q12	8-729-207-82	TRANSISTOR 2SC3421-Y				
		< RESISTOR >				
R1	1-247-807-31	CARBON	100	5%	1/4W	
R2	1-249-429-11	CARBON	10K	5%	1/4W	
R3	1-249-429-11	CARBON	10K	5%	1/4W	
R4	1-247-807-31	CARBON	100	5%	1/4W	
R5	1-249-429-11	CARBON	10K	5%	1/4W	
R6	1-249-437-11	CARBON	47K	5%	1/4W	
R7	1-249-437-11	CARBON	47K	5%	1/4W	
R8	1-249-441-11	CARBON	100K	5%	1/4W	
R9	1-249-441-11	CARBON	100K	5%	1/4W	
R10	1-249-429-11	CARBON	10K	5%	1/4W	
R11	1-249-389-11	CARBON	4.7	5%	1/4W	F
R12	1-249-421-11	CARBON	2.2K	5%	1/4W	
R13	1-249-421-11	CARBON	2.2K	5%	1/4W	
R14	1-249-413-11	CARBON	470	5%	1/4W	
R15	1-216-069-00	CARBON	6,8K	5%	1/4W	
R16	1-249-413-11	CARBON	470	5%	1/4W	
R17	1-216-069-00	CARBON	6,8K	5%	1/4W	
R18	1-249-389-11	CARBON	4.7	5%	1/4W	F
R19	1-249-421-11	CARBON	2.2K	5%	1/4W	
R20	1-249-421-11	CARBON	2.2K	5%	1/4W	
R21	1-247-863-91	CARBON	22K	5%	1/4W	
R22	1-249-441-11	CARBON	100K	5%	1/4W	
R23	1-249-441-11	CARBON	100K	5%	1/4W	
R24	1-247-863-91	CARBON	22K	5%	1/4W	
R25	1-216-389-11	METAL OXIDE	1	5%	3W	F
R26	1-216-389-11	METAL OXIDE	1	5%	3W	F
R27	1-249-429-11	CARBON	10K	5%	1/4W	
R28	1-216-389-11	METAL OXIDE	1	5%	3W	F
R29	1-216-389-11	METAL OXIDE	1	5%	3W	F
R30	1-249-429-11	CARBON	10K	5%	1/4W	
R31	1-247-807-31	CARBON	100	5%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R32	1-247-807-31	CARBON	100	5%	1/4W	
R33	1-247-807-31	CARBON	100	5%	1/4W	
R34	1-249-429-11	CARBON	10K	5%	1/4W	
R35	1-249-429-11	CARBON	10K	5%	1/4W	
R36	1-247-807-31	CARBON	100	5%	1/4W	
R37	1-247-863-91	CARBON	22K	5%	1/4W	
R38	1-247-863-91	CARBON	22K	5%	1/4W	
R39	1-247-807-31	CARBON	100	5%	1/4W	
R40	1-247-807-31	CARBON	100	5%	1/4W	
R41	1-247-863-91	CARBON	22K	5%	1/4W	
R42	1-247-863-91	CARBON	22K	5%	1/4W	
R43	1-249-425-11	CARBON	4.7K	5%	1/4W	
R44	1-249-425-11	CARBON	4.7K	5%	1/4W	
R45	1-247-863-91	CARBON	22K	5%	1/4W	
R46	1-247-863-91	CARBON	22K	5%	1/4W	
R47	1-249-425-11	CARBON	4.7K	5%	1/4W	
R48	1-249-425-11	CARBON	4.7K	5%	1/4W	
R49	1-249-441-11	CARBON	100K	5%	1/4W	
R50	1-249-441-11	CARBON	100K	5%	1/4W	
R51	1-247-863-91	CARBON	22K	5%	1/4W	
R52	1-247-863-91	CARBON	22K	5%	1/4W	
R53	1-249-425-11	CARBON	4.7K	5%	1/4W	
R54	1-249-425-11	CARBON	4.7K	5%	1/4W	
R55	1-247-863-91	CARBON	22K	5%	1/4W	
R56	1-247-863-91	CARBON	22K	5%	1/4W	
R57	1-247-863-91	CARBON	22K	5%	1/4W	
R58	1-249-434-11	CARBON	27K	5%	1/4W	
R59	1-249-434-11	CARBON	27K	5%	1/4W	
R60	1-249-425-11	CARBON	4.7K	5%	1/4W	
R61	1-247-863-91	CARBON	22K	5%	1/4W	
R62	1-249-425-11	CARBON	4.7K	5%	1/4W	
R63	1-247-807-31	CARBON	100	5%	1/4W	
R64	1-247-807-31	CARBON	100	5%	1/4W	
R65	1-247-815-91	CARBON	220	5%	1/4W	
R66	1-215-433-00	METAL	3.3K	1%	1/4W	
R67	1-247-815-91	CARBON	220	5%	1/4W	
R68	1-247-815-91	CARBON	220	5%	1/4W	
R69	1-215-433-00	METAL	3.3K	1%	1/4W	
R70	1-247-815-91	CARBON	220	5%	1/4W	
R71	1-215-413-00	METAL	470	1%	1/4W	
R72	1-215-433-00	METAL	3.3K	1%	1/4W	
R73	1-249-405-11	CARBON	100	5%	1/4W	F
R74	1-249-405-11	CARBON	100	5%	1/4W	F
R75	1-247-807-31	CARBON	100	5%	1/4W	
R76	1-215-413-00	METAL	470	1%	1/4W	
R77	1-215-433-00	METAL	3.3K	1%	1/4W	
R78	1-247-807-31	CARBON	100	5%	1/4W	
R79	1-249-405-11	CARBON	100	5%	1/4W	F
R80	1-215-433-00	METAL	3.3K	1%	1/4W	
R81	1-249-405-11	CARBON	100	5%	1/4W	F
R82	1-215-433-00	METAL	3.3K	1%	1/4W	
R83	1-247-807-31	CARBON	100	5%	1/4W	
R84	1-247-815-91	CARBON	220	5%	1/4W	
R85	1-247-815-91	CARBON	220	5%	1/4W	
R86	1-247-815-91	CARBON	220	5%	1/4W	
R87	1-247-807-31	CARBON	100	5%	1/4W	
R88	1-247-815-91	CARBON	220	5%	1/4W	
R89	1-215-433-00	METAL	3.3K	1%	1/4W	
R90	1-247-815-91	CARBON	220	5%	1/4W	
R91	1-247-815-91	CARBON	220	5%	1/4W	
R92	1-247-815-91	CARBON	220	5%	1/4W	
R93	1-215-433-00	METAL	3.3K	1%	1/4W	
R94	1-215-413-00	METAL	470	1%	1/4W	
R95	1-215-413-00	METAL	470	1%	1/4W	
R96	1-247-815-91	CARBON	220	5%	1/4W	
R97	1-215-413-00	METAL	470	1%	1/4W	
R98	1-215-413-00	METAL	470	1%	1/4W	
R99	1-215-433-00	METAL	3.3K	1%	1/4W	
R100	1-215-433-00	METAL	3.3K	1%	1/4W	
R101	1-215-433-00	METAL	3.3K	1%	1/4W	
R102	1-215-433-00	METAL	3.3K	1%	1/4W	
R103	1-249-405-11	CARBON	100	5%	1/4W	F
R104	1-249-405-11	CARBON	100	5%	1/4W	F
R105	1-216-475-11	METAL OXIDE	120	5%	3W	F
R106	1-216-475-11	METAL OXIDE	120	5%	3W	F
R107	1-216-475-11	METAL OXIDE	120	5%	3W	F
R108	1-216-475-11	METAL OXIDE	120	5%	3W	F
R109	1-216-475-11	METAL OXIDE	120	5%	3W	F
R110	1-216-475-11	METAL OXIDE	120	5%	3W	F
R111	1-247-903-00	CARBON	1M	5%	1/4W	
R112	1-247-903-00	CARBON	1M	5%	1/4W	

< TEST PIN >

REF NO.	PART NO.	DESCRIPTION
TP1	1-537-864-11	PIN, POST
TP2	1-537-864-11	PIN, POST
TP3	1-537-864-11	PIN, POST
TP4	1-537-864-11	PIN, POST
TP5	1-537-864-11	PIN, POST
TP6	1-537-864-11	PIN, POST
TP7	1-537-864-11	PIN, POST
TP8	1-537-864-11	PIN, POST
TP9	1-537-864-11	PIN, POST

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* A-1343-194-A DCR MOUNTED PC BOARD
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< CONNECTOR >

REF NO.	PART NO.	DESCRIPTION
CN2	* 1-774-245-11	CONNECTOR, BOARD TO BOARD 8P

< RESISTOR >

REF NO.	PART NO.	DESCRIPTION			
R1101	1-214-816-00	METAL	10	1%	1/2W
R1102	1-214-816-00	METAL	10	1%	1/2W
R1103	1-214-816-00	METAL	10	1%	1/2W
R1104	1-214-816-00	METAL	10	1%	1/2W
R1105	1-214-816-00	METAL	10	1%	1/2W
R1109	1-214-816-00	METAL	10	1%	1/2W
R1110	1-214-816-00	METAL	10	1%	1/2W
R1111	1-214-816-00	METAL	10	1%	1/2W
R1112	1-214-816-00	METAL	10	1%	1/2W
R1113	1-214-816-00	METAL	10	1%	1/2W

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* A-1343-311-A DD MOUNTED PC BOARD
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REF NO.	PART NO.	DESCRIPTION			REMARK
		< CAPACITOR >			
C1	1-128-004-11	ELECT CHIP	10MF	20%	16V
C2	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3	1-128-004-11	ELECT CHIP	10MF	20%	16V
C4	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C5	1-128-004-11	ELECT CHIP	10MF	20%	16V
C6	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C7	1-128-004-11	ELECT CHIP	10MF	20%	16V
C8	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C9	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C10	1-128-004-11	ELECT CHIP	10MF	20%	16V
C11	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C12	1-128-004-11	ELECT CHIP	10MF	20%	16V
C13	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C14	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C15	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C16	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C17	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C18	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C19	1-128-589-11	ELECT CHIP	47MF	20%	6.3V
C20	1-128-589-11	ELECT CHIP	47MF	20%	6.3V
C21	1-164-346-11	CERAMIC CHIP	1MF		16V
C22	1-128-004-11	ELECT CHIP	10MF	20%	16V
C23	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C24	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C25	1-163-031-11	CERAMIC CHIP	0.01MF		50V
		< CONNECTOR >			
CN1	* 1-695-986-11	SOCKET, CONNECTOR 40P			
		< DIODE >			
D1	8-719-801-78	DIODE 1SS184			
		< IC >			
IC1	8-759-445-84	IC AD835AR			
IC2	8-752-068-37	IC CXA1726AM			
IC3	8-759-239-55	IC TC74HC123AF			
IC4	8-759-381-53	IC µPC814G2-E2			
IC5	8-759-381-53	IC µPC814G2-E2			
IC6	8-759-381-53	IC µPC814G2-E2			
		< TRANSISTOR >			
Q1	8-729-105-73	TRANSISTOR 2SK523-L2			
Q2	8-729-216-22	TRANSISTOR 2SA1162-G			
		< RESISTOR >			
R1	1-216-025-91	METAL GLAZE	100	5%	1/10W
R2	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R4	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R5	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R6	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R7	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R8	1-216-025-91	METAL GLAZE	100	5%	1/10W
R9	1-216-025-91	METAL GLAZE	100	5%	1/10W
R10	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R11	1-216-025-91	METAL GLAZE	100	5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
R12	1-216-603-11	METAL CHIP	10	0.5%	1/10W
R13	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R14	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R15	1-216-025-91	METAL GLAZE	100	5%	1/10W
R16	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R17	1-216-025-91	METAL GLAZE	100	5%	1/10W
R18	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R19	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R20	1-216-025-91	METAL GLAZE	100	5%	1/10W
R21	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R22	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R23	1-216-025-91	METAL GLAZE	100	5%	1/10W
R24	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R25	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R26	1-216-025-91	METAL GLAZE	100	5%	1/10W
R27	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R28	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R29	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R30	1-218-774-11	METAL CHIP	820K	0.5%	1/10W
R31	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R32	1-216-695-11	METAL CHIP	68K	0.5%	1/10W
R33	1-216-025-91	METAL GLAZE	100	5%	1/10W
R34	1-216-025-91	METAL GLAZE	100	5%	1/10W
R35	1-216-025-91	METAL GLAZE	100	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-238-787-11	RES, ADJ, CERMET 10K			
RV2	1-238-783-11	RES, ADJ, CERMET 500			
RV3	1-238-786-11	RES, ADJ, CERMET 5K			
		< TEST PIN >			
TP1	* 1-535-877-22	CHIP, CHECKER			
TP2	* 1-535-877-22	CHIP, CHECKER			
TP3	* 1-535-877-22	CHIP, CHECKER			

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* A-1343-201-A DM MOUNTED PC BOARD
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* A-1346-534-A E COMPLETE PC BOARD
(Include EA Mounted PC BOARD)
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REF NO.	PART NO.	DESCRIPTION			REMARK
	* X-4033-998-1	STAY ASSY			
	3-701-809-31	SCREW, TERMINAL (M3X8)			
	4-056-064-01	HOLDER (A), TR			
	4-056-065-01	HOLDER (B), TR			
	4-056-066-01	HOLDER (C), TR			
	* 4-056-076-01	PIN, GUIDE			
	4-056-102-01	LOCK, CARD			
	7-626-317-21	PIN, SPRING 2.5X8			
	7-682-949-01	SCREW +PSW 3X10			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
	* 7-322-065-72	RUBBER, RTV (SE-9168)(130G)			
		< CAPACITOR >			
C1	1-117-405-51	ELECT	4700MF	20%	16V
C2	1-117-405-51	ELECT	4700MF	20%	16V

E

REF NO.	PART NO.	DESCRIPTION			REMARK
C3	1-117-405-51	ELECT	4700MF	20%	16V
C4	1-162-114-00	CERAMIC	0.0047MF		2KV
C13	1-117-408-11	FILM	3900PF	0.03	2KV
C14	1-117-408-11	FILM	3900PF	0.03	2KV
C21	1-136-945-11	FILM	8.2MF	5%	200V
C22	1-136-945-11	FILM	8.2MF	5%	200V
C23	1-136-945-11	FILM	8.2MF	5%	200V
C24	1-136-945-11	FILM	8.2MF	5%	200V
C25	1-136-945-11	FILM	8.2MF	5%	200V
C26	1-136-945-11	FILM	8.2MF	5%	200V
C31	1-126-964-11	ELECT	10MF	20%	50V
C32	1-126-964-11	ELECT	10MF	20%	50V
C33	1-126-969-11	ELECT	220MF	20%	50V
C36	1-162-116-00	CERAMIC	680PF	10%	2KV
C37	1-162-116-00	CERAMIC	680PF	10%	2KV
C38	1-162-116-00	CERAMIC	680PF	10%	2KV
C101	1-102-973-00	CERAMIC	100PF	5%	50V
C102	1-136-159-00	FILM	0.033MF	5%	50V
C103	1-136-165-00	FILM	0.1MF	5%	50V
C104	1-136-165-00	FILM	0.1MF	5%	50V
C105	1-136-165-00	FILM	0.1MF	5%	50V
C106	1-136-165-00	FILM	0.1MF	5%	50V
C107	1-136-153-00	FILM	0.01MF	5%	50V
C108	1-102-824-00	CERAMIC	470PF	5%	50V
C109	1-126-960-11	ELECT	1MF	20%	50V
C110	1-126-933-11	ELECT	100MF	20%	16V
C111	1-126-933-11	ELECT	100MF	20%	16V
C112	1-126-933-11	ELECT	100MF	20%	16V
C113	1-126-965-11	ELECT	22MF	20%	50V
C114	1-101-821-00	CERAMIC	0.0022MF		500V
C115	1-102-824-00	CERAMIC	470PF	5%	50V
C116	1-101-004-00	CERAMIC	0.01MF		50V
C117	1-101-004-00	CERAMIC	0.01MF		50V
C118	1-136-165-00	FILM	0.1MF	5%	50V
C119	1-136-165-00	FILM	0.1MF	5%	50V
C120	1-107-746-11	ELECT	10MF	20%	200V
C121	1-136-165-00	FILM	0.1MF	5%	50V
C122	1-136-165-00	FILM	0.1MF	5%	50V
C125	1-136-153-00	FILM	0.01MF	5%	50V
C126	1-137-364-11	FILM	0.001MF	5%	50V
C128	1-107-746-11	ELECT	10MF	20%	200V
C129	1-107-746-11	ELECT	10MF	20%	200V
C133	1-109-889-11	ELECT	1MF	20%	50V
C134	1-104-665-11	ELECT	100MF	20%	25V
C135	1-104-665-11	ELECT	100MF	20%	25V
C142	1-125-538-11	ELECT(BLOCK)	1000MF	20%	200V
C143	1-102-824-00	CERAMIC	470PF	5%	50V
C144	1-136-165-00	FILM	0.1MF	5%	50V
C145	1-136-153-00	FILM	0.01MF	5%	50V
C146	1-136-173-00	FILM	0.47MF	5%	50V
C147	1-136-173-00	FILM	0.47MF	5%	50V
C148	1-126-933-11	ELECT	100MF	20%	16V
C149	1-126-964-11	ELECT	10MF	20%	50V
C150	1-137-364-11	FILM	0.001MF	5%	50V
C151	1-126-960-11	ELECT	1MF	20%	50V
C152	1-136-165-00	FILM	0.1MF	5%	50V
C153	1-126-966-11	ELECT	33MF	20%	16V
C154	1-136-165-00	FILM	0.1MF	5%	50V
C155	1-136-153-00	FILM	0.01MF	5%	50V
C156	1-136-165-00	FILM	0.1MF	5%	50V
C157	1-136-157-00	FILM	0.022MF	5%	50V
C158	1-128-475-11	ELECT	10MF		160V
C159	1-107-746-11	ELECT	10MF	20%	200V
C160	1-136-111-00	FILM	1MF	5%	200V
C161	1-126-960-11	ELECT	1MF	20%	50V
C162	1-136-111-00	FILM	1MF	5%	200V
C163	1-126-964-11	ELECT	10MF	20%	50V
C164	1-126-964-11	ELECT	10MF	20%	50V
C165	1-126-964-11	ELECT	10MF	20%	50V
C166	1-126-964-11	ELECT	10MF	20%	50V
C167	1-102-824-00	CERAMIC	470PF	5%	50V
C168	1-136-153-00	FILM	0.01MF	5%	50V
C169	1-124-768-11	ELECT	4.7MF	20%	50V
C170	1-126-966-11	ELECT	33MF	20%	16V
C171	1-136-153-00	FILM	0.01MF	5%	50V
C172	1-107-902-11	ELECT	1MF	20%	50V
C173	1-126-966-11	ELECT	33MF	20%	16V
C174	1-126-966-11	ELECT	33MF	20%	16V
C175	1-136-722-11	FILM	0.008MF	0.03	1.6KV
C176	1-104-999-11	MYLAR	0.1MF	10%	200V
C177	1-126-964-11	ELECT	10MF	20%	50V
		< CONNECTOR >			
CN232	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN233	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN234	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P			
CN235	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P			
CN236	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P			
		< DIODE >			
D1	8-719-059-41	DIODE DD82RC-SONY			
D2	8-719-054-88	DIODE DFC15TR			
D3	8-719-054-88	DIODE DFC15TR			
D4	8-719-054-88	DIODE DFC15TR			
D5	8-719-054-88	DIODE DFC15TR			
D6	8-719-054-88	DIODE DFC15TR			
D7	8-719-054-88	DIODE DFC15TR			
D8	8-719-948-45	DIODE ERA22-08			
D9	8-719-920-67	DIODE ERC91-02			
D11	8-719-110-41	DIODE RD15ESB2			
D101	8-719-110-53	DIODE RD20ESB2			
D102	8-719-911-19	DIODE 1SS119-25			
D103	8-719-911-19	DIODE 1SS119-25			
D104	8-719-911-19	DIODE 1SS119-25			
D105	8-719-948-45	DIODE ERA22-08			
D106	8-719-948-45	DIODE ERA22-08			
D107	8-719-110-41	DIODE RD15ESB2			
D108	8-719-110-41	DIODE RD15ESB2			
D109	8-719-948-45	DIODE ERA22-08			
D110	8-719-911-19	DIODE 1SS119-25			
D111	8-719-911-19	DIODE 1SS119-25			
D112	8-719-911-19	DIODE 1SS119-25			
D113	8-719-911-19	DIODE 1SS119-25			
D114	8-719-110-53	DIODE RD20ESB2			
D115	8-719-110-53	DIODE RD20ESB2			
D116	8-719-920-67	DIODE ERC91-02			
D117	8-719-911-19	DIODE 1SS119-25			

REF NO.	PART NO.	DESCRIPTION	REMARK
D118	8-719-948-45	DIODE ERA22-08	
D119	8-719-911-19	DIODE 1SS119-25	
D120	8-719-110-63	DIODE RD24ESB3	
D121	8-719-911-19	DIODE 1SS119-25	
D122	8-719-110-63	DIODE RD24ESB3	
D123	8-719-911-19	DIODE 1SS119-25	
D124	8-719-948-45	DIODE ERA22-08	
D125	8-719-110-72	DIODE RD30ESB2	
D126	8-719-110-88	DIODE RD39ESB2	
D127	8-719-110-41	DIODE RD15ESB2	
D128	8-719-110-41	DIODE RD15ESB2	
D129	8-719-110-41	DIODE RD15ESB2	
D130	8-719-110-41	DIODE RD15ESB2	
D131	8-719-911-19	DIODE 1SS119-25	
D132	8-719-911-19	DIODE 1SS119-25	
D133	8-719-911-19	DIODE 1SS119-25	
D134	8-719-300-80	DIODE RU-1C	
D135	8-719-300-80	DIODE RU-1C	
D136	8-719-300-80	DIODE RU-1C	
D137	8-719-300-80	DIODE RU-1C	
D138	8-719-911-19	DIODE 1SS119-25	
D139	8-719-911-19	DIODE 1SS119-25	
D140	8-719-911-19	DIODE 1SS119-25	
D141	8-719-911-19	DIODE 1SS119-25	
D142	8-719-911-19	DIODE 1SS119-25	
D143	8-719-911-19	DIODE 1SS119-25	
D144	8-719-901-19	DIODE V11N	
D145	8-719-911-19	DIODE 1SS119-25	
D146	8-719-948-45	DIODE ERA22-08	
D147	8-719-110-72	DIODE RD30ESB2	
D149	8-719-911-19	DIODE 1SS119-25	
		< FERRITE BEAD >	
FB1	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
		< IC >	
IC101	8-759-345-38	IC HD14538BP	
IC102	8-759-145-58	IC µPC4558C	
IC103	8-759-109-82	IC µPC814C	
IC104	8-759-145-58	IC µPC4558C	
IC105	8-759-145-58	IC µPC4558C	
IC106	8-759-145-58	IC µPC4558C	
IC107	8-759-433-43	IC MC1495BP	
IC108	8-759-442-21	IC MC1436CP1	
IC109	8-759-231-58	IC TA7812S	
IC110	8-759-929-65	IC LM7912CT	
IC111	8-759-145-58	IC µPC4558C	
IC112	8-759-145-58	IC µPC4558C	
IC113	8-759-103-93	IC µPC393C	
IC114	8-759-103-93	IC µPC393C	
IC115	8-759-145-58	IC µPC4558C	
		< COIL >	
L103	1-406-663-21	COIL, CHOKE 47µH	
L104	1-406-663-21	COIL, CHOKE 47µH	
L106	1-406-976-11	COIL, CHOKE 68µH	
L107	1-410-067-21	INDUCTOR 4.7mH	
L108	1-410-067-21	INDUCTOR 4.7mH	
L109	1-406-989-21	COIL, CHOKE 10mH	
L110	1-406-989-21	COIL, CHOKE 10mH	
L111	1-410-093-11	INDUCTOR 33mH	
L113	1-410-680-31	INDUCTOR 330µH	
L115	1-410-067-21	INDUCTOR 4.7mH	
		< VARIABLE COIL >	
LV1	1-411-568-11	COIL, HORIZONTAL ADJUSTMENT	
LV2	1-411-568-11	COIL, HORIZONTAL ADJUSTMENT	
LV3	1-411-568-11	COIL, HORIZONTAL ADJUSTMENT	
		< TRANSISTOR >	
Q1	8-729-142-69	TRANSISTOR 2SK817	
Q2	8-729-142-68	TRANSISTOR 2SJ143	
Q3	8-729-142-69	TRANSISTOR 2SK817	
Q4	8-729-142-68	TRANSISTOR 2SJ143	
Q5	8-729-142-69	TRANSISTOR 2SK817	
Q6	8-729-142-68	TRANSISTOR 2SJ143	
Q7	8-729-033-56	TRANSISTOR 2SC5238-CB	
Q8	8-729-033-56	TRANSISTOR 2SC5238-CB	
Q11	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q12	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q13	8-729-032-26	TRANSISTOR IRFI9620GS	
Q101	8-729-105-74	TRANSISTOR 2SK523-M1	
Q102	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q103	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q104	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q105	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q107	8-729-018-60	TRANSISTOR 2SD2012-LC	
Q108	8-729-140-96	TRANSISTOR 2SD774-34	
Q111	8-729-143-42	TRANSISTOR 2SK929	
Q112	8-729-142-68	TRANSISTOR 2SJ143	
Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q115	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q116	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q117	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q118	8-729-105-74	TRANSISTOR 2SK523-M1	
Q130	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q131	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q132	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q133	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q134	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q135	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q136	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q137	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q138	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q139	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q140	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q141	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q142	8-729-143-42	TRANSISTOR 2SK929	
Q143	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q144	8-729-905-86	TRANSISTOR 2SC4054N	
Q145	8-729-402-03	TRANSISTOR 2SK755	
Q146	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q147	8-729-905-86	TRANSISTOR 2SC4054N	
Q148	8-729-802-71	TRANSISTOR 2SA1407-D	

E

REF NO.	PART NO.	DESCRIPTION				REMARK
		< RESISTOR >				
R1	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R2	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R3	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R11	1-214-820-00	METAL	15	1%	1/2W	
R12	1-214-820-00	METAL	15	1%	1/2W	
R13	1-214-820-00	METAL	15	1%	1/2W	
R16	1-217-210-11	WIREWOUND	6.8	10%	2W	F
R21	1-214-820-00	METAL	15	1%	1/2W	
R22	1-214-820-00	METAL	15	1%	1/2W	
R23	1-214-820-00	METAL	15	1%	1/2W	
R26	1-249-441-11	CARBON	100K	5%	1/4W	
R31	1-214-820-00	METAL	15	1%	1/2W	
R32	1-214-820-00	METAL	15	1%	1/2W	
R33	1-214-820-00	METAL	15	1%	1/2W	
R34	1-214-820-00	METAL	15	1%	1/2W	
R35	1-214-820-00	METAL	15	1%	1/2W	
R36	1-214-820-00	METAL	15	1%	1/2W	
R37	1-214-820-00	METAL	15	1%	1/2W	
R38	1-214-820-00	METAL	15	1%	1/2W	
R39	1-214-820-00	METAL	15	1%	1/2W	
R40	1-214-820-00	METAL	15	1%	1/2W	
R41	1-214-820-00	METAL	15	1%	1/2W	
R42	1-214-820-00	METAL	15	1%	1/2W	
R43	1-215-469-00	METAL	100K	1%	1/4W	
R44	1-215-429-00	METAL	2.2K	1%	1/4W	
R45	1-215-429-00	METAL	2.2K	1%	1/4W	
R46	1-215-429-00	METAL	2.2K	1%	1/4W	
R47	1-215-429-00	METAL	2.2K	1%	1/4W	
R48	1-249-417-11	CARBON	1K	5%	1/4W	
R49	1-249-417-11	CARBON	1K	5%	1/4W	
R50	1-249-429-11	CARBON	10K	5%	1/4W	
R51	1-207-688-00	WIREWOUND	220	10%	5W	F
R52	1-249-425-11	CARBON	4.7K	5%	1/4W	
R53	1-215-905-11	METAL OXIDE	10	5%	3W	F
R54	1-260-304-51	CARBON	10	5%	1/2W	
R57	1-247-807-31	CARBON	100	5%	1/4W	
R58	1-247-807-31	CARBON	100	5%	1/4W	
R59	1-247-807-31	CARBON	100	5%	1/4W	
R60	1-247-807-31	CARBON	100	5%	1/4W	
R61	1-247-807-31	CARBON	100	5%	1/4W	
R62	1-247-807-31	CARBON	100	5%	1/4W	
R63	1-260-306-51	CARBON	15	5%	1/2W	
R64	1-260-306-51	CARBON	15	5%	1/2W	
R65	1-260-306-51	CARBON	15	5%	1/2W	
R66	1-216-400-11	METAL OXIDE	8.2	5%	3W	F
R67	1-216-400-11	METAL OXIDE	8.2	5%	3W	F
R68	1-216-400-11	METAL OXIDE	8.2	5%	3W	F
R69	1-216-400-11	METAL OXIDE	8.2	5%	3W	F
R70	1-216-400-11	METAL OXIDE	8.2	5%	3W	F
R71	1-249-417-11	CARBON	1K	5%	1/4W	
R72	1-216-400-11	METAL OXIDE	8.2	5%	3W	F
R73	1-249-425-11	CARBON	4.7K	5%	1/4W	
R74	1-215-905-11	METAL OXIDE	10	5%	3W	F
R101	1-215-457-00	METAL	33K	1%	1/4W	
R102	1-249-429-11	CARBON	10K	5%	1/4W	
R103	1-249-429-11	CARBON	10K	5%	1/4W	
R104	1-249-429-11	CARBON	10K	5%	1/4W	
R105	1-249-429-11	CARBON	10K	5%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R106	1-215-445-00	METAL	10K	1%	1/4W	
R107	1-215-445-00	METAL	10K	1%	1/4W	
R108	1-249-417-11	CARBON	1K	5%	1/4W	
R109	1-249-429-11	CARBON	10K	5%	1/4W	
R110	1-249-417-11	CARBON	1K	5%	1/4W	
R111	1-249-429-11	CARBON	10K	5%	1/4W	
R112	1-215-429-00	METAL	2.2K	1%	1/4W	
R113	1-247-807-31	CARBON	100	5%	1/4W	
R114	1-249-417-11	CARBON	1K	5%	1/4W	
R115	1-215-445-00	METAL	10K	1%	1/4W	
R116	1-215-445-00	METAL	10K	1%	1/4W	
R117	1-215-433-00	METAL	3.3K	1%	1/4W	
R118	1-247-843-11	CARBON	3.3K	5%	1/4W	
R119	1-215-457-00	METAL	33K	1%	1/4W	
R120	1-215-457-00	METAL	33K	1%	1/4W	
R121	1-215-445-00	METAL	10K	1%	1/4W	
R122	1-249-425-11	CARBON	4.7K	5%	1/4W	
R123	1-215-445-00	METAL	10K	1%	1/4W	
R124	1-215-445-00	METAL	10K	1%	1/4W	
R125	1-215-455-00	METAL	27K	1%	1/4W	
R126	1-215-457-00	METAL	33K	1%	1/4W	
R127	1-215-447-00	METAL	12K	1%	1/4W	
R128	1-215-445-00	METAL	10K	1%	1/4W	
R129	1-215-447-00	METAL	12K	1%	1/4W	
R130	1-249-425-11	CARBON	4.7K	5%	1/4W	
R131	1-215-445-00	METAL	10K	1%	1/4W	
R132	1-215-449-00	METAL	15K	1%	1/4W	
R133	1-249-425-11	CARBON	4.7K	5%	1/4W	
R134	1-215-453-00	METAL	22K	1%	1/4W	
R135	1-249-429-11	CARBON	10K	5%	1/4W	
R136	1-215-433-00	METAL	3.3K	1%	1/4W	
R137	1-247-843-11	CARBON	3.3K	5%	1/4W	
R138	1-215-433-00	METAL	3.3K	1%	1/4W	
R139	1-249-425-11	CARBON	4.7K	5%	1/4W	
R140	1-249-417-11	CARBON	1K	5%	1/4W	
R141	1-249-421-11	CARBON	2.2K	5%	1/4W	
R142	1-249-421-11	CARBON	2.2K	5%	1/4W	
R143	1-249-420-11	CARBON	1.8K	5%	1/4W	
R144	1-249-421-11	CARBON	2.2K	5%	1/4W	
R145	1-215-433-00	METAL	3.3K	1%	1/4W	
R146	1-215-451-00	METAL	18K	1%	1/4W	
R147	1-249-421-11	CARBON	2.2K	5%	1/4W	
R148	1-215-467-00	METAL	82K	1%	1/4W	
R149	1-249-417-11	CARBON	1K	5%	1/4W	
R150	1-215-461-00	METAL	47K	1%	1/4W	
R151	1-215-445-00	METAL	10K	1%	1/4W	
R152	1-215-445-00	METAL	10K	1%	1/4W	
R153	1-215-433-00	METAL	3.3K	1%	1/4W	
R154	1-249-417-11	CARBON	1K	5%	1/4W	
R155	1-215-445-00	METAL	10K	1%	1/4W	
R156	1-215-445-00	METAL	10K	1%	1/4W	
R157	1-215-445-00	METAL	10K	1%	1/4W	
R158	1-215-445-00	METAL	10K	1%	1/4W	
R159	1-249-429-11	CARBON	10K	5%	1/4W	
R160	1-249-417-11	CARBON	1K	5%	1/4W	
R161	1-215-469-00	METAL	100K	1%	1/4W	
R162	1-249-417-11	CARBON	1K	5%	1/4W	
R163	1-215-461-00	METAL	47K	1%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R164	1-214-830-21	METAL	39	1%	1/2W	
R165	1-215-445-00	METAL	10K	1%	1/4W	
R166	1-214-830-21	METAL	39	1%	1/2W	
R167	1-249-437-11	CARBON	47K	5%	1/4W	
R168	1-215-912-11	METAL OXIDE	150	5%	3W	F
R169	1-260-340-11	CARBON	10K	5%	1/2W	
R170	1-249-425-11	CARBON	4.7K	5%	1/4W	
R171	1-247-807-31	CARBON	100	5%	1/4W	
R172	1-247-807-31	CARBON	100	5%	1/4W	
R173	1-202-961-11	WIREWOUND	1.8	5%	10W	
R174	1-260-300-11	CARBON	4.7	5%	1/2W	
R175	1-247-843-11	CARBON	3.3K	5%	1/4W	
R176	1-260-328-11	CARBON	1K	5%	1/2W	
R177	1-215-445-00	METAL	10K	1%	1/4W	
R178	1-249-417-11	CARBON	1K	5%	1/4W	
R179	1-249-429-11	CARBON	10K	5%	1/4W	
R180	1-215-433-00	METAL	3.3K	1%	1/4W	
R181	1-249-441-11	CARBON	100K	5%	1/4W	
R182	1-249-421-11	CARBON	2.2K	5%	1/4W	
R183	1-247-807-31	CARBON	100	5%	1/4W	
R184	1-249-425-11	CARBON	4.7K	5%	1/4W	
R185	1-249-429-11	CARBON	10K	5%	1/4W	
R186	1-249-437-11	CARBON	47K	5%	1/4W	
R187	1-215-461-00	METAL	47K	1%	1/4W	
R188	1-247-863-91	CARBON	22K	5%	1/4W	
R189	1-247-863-91	CARBON	22K	5%	1/4W	
R191	1-247-843-11	CARBON	3.3K	5%	1/4W	
R192	1-247-863-91	CARBON	22K	5%	1/4W	
R193	1-247-903-00	CARBON	1M	5%	1/4W	
R194	1-247-843-11	CARBON	3.3K	5%	1/4W	
R195	1-247-843-11	CARBON	3.3K	5%	1/4W	
R196	1-247-883-00	CARBON	150K	5%	1/4W	
R197	1-247-807-31	CARBON	100	5%	1/4W	
R198	1-215-447-00	METAL	12K	1%	1/4W	
R199	1-247-843-11	CARBON	3.3K	5%	1/4W	
R200	1-249-417-11	CARBON	1K	5%	1/4W	
R202	1-260-296-11	CARBON	2.2	5%	1/2W	
R203	1-260-298-51	CARBON	3.3	5%	1/2W	
R204	1-260-296-11	CARBON	2.2	5%	1/2W	
R210	1-215-451-00	METAL	18K	1%	1/4W	
R219	1-215-445-00	METAL	10K	1%	1/4W	
R220	1-215-445-00	METAL	10K	1%	1/4W	
R223	1-249-429-11	CARBON	10K	5%	1/4W	
R224	1-249-429-11	CARBON	10K	5%	1/4W	
R226	1-215-445-00	METAL	10K	1%	1/4W	
R230	1-260-288-11	CARBON	0.47	5%	1/2W	
R231	1-260-288-11	CARBON	0.47	5%	1/2W	
R232	1-249-437-11	CARBON	47K	5%	1/4W	
R233	1-249-417-11	CARBON	1K	5%	1/4W	
R234	1-249-417-11	CARBON	1K	5%	1/4W	
R235	1-249-437-11	CARBON	47K	5%	1/4W	
R236	1-249-437-11	CARBON	47K	5%	1/4W	
R237	1-249-441-11	CARBON	100K	5%	1/4W	
R238	1-249-399-11	CARBON	33	5%	1/4W	
R239	1-247-843-11	CARBON	3.3K	5%	1/4W	
R240	1-249-441-11	CARBON	100K	5%	1/4W	
R241	1-249-437-11	CARBON	47K	5%	1/4W	
R242	1-215-461-00	METAL	47K	1%	1/4W	
R243	1-215-469-00	METAL	100K	1%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R244	1-247-843-11	CARBON	3.3K	5%	1/4W	
R245	1-215-455-00	METAL	27K	1%	1/4W	
R246	1-215-435-00	METAL	3.9K	1%	1/4W	
R247	1-249-421-11	CARBON	2.2K	5%	1/4W	
R248	1-249-425-11	CARBON	4.7K	5%	1/4W	
R249	1-215-421-00	METAL	1K	1%	1/4W	
R250	1-215-445-00	METAL	10K	1%	1/4W	
R251	1-247-887-00	CARBON	220K	5%	1/4W	
R252	1-249-429-11	CARBON	10K	5%	1/4W	
R254	1-247-807-31	CARBON	100	5%	1/4W	
R255	1-249-417-11	CARBON	1K	5%	1/4W	
R256	1-249-441-11	CARBON	100K	5%	1/4W	
R257	1-249-437-11	CARBON	47K	5%	1/4W	
R258	1-215-435-00	METAL	3.9K	1%	1/4W	
R259	1-215-439-00	METAL	5.6K	1%	1/4W	
R260	1-215-445-00	METAL	10K	1%	1/4W	
R261	1-249-429-11	CARBON	10K	5%	1/4W	
R262	1-247-807-31	CARBON	100	5%	1/4W	
R263	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R264	1-249-429-11	CARBON	10K	5%	1/4W	
R265	1-247-807-31	CARBON	100	5%	1/4W	
R266	1-249-441-11	CARBON	100K	5%	1/4W	
R267	1-215-379-00	METAL	18	1%	1/4W	
R268	1-215-379-00	METAL	18	1%	1/4W	
R269	1-215-421-00	METAL	1K	1%	1/4W	
R270	1-215-415-00	METAL	560	1%	1/4W	
R271	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R272	1-260-298-51	CARBON	3.3	5%	1/2W	
R273	1-249-427-11	CARBON	6.8K	5%	1/4W	
R274	1-249-427-11	CARBON	6.8K	5%	1/4W	
R275	1-249-427-11	CARBON	6.8K	5%	1/4W	
R276	1-249-427-11	CARBON	6.8K	5%	1/4W	
R277	1-249-427-11	CARBON	6.8K	5%	1/4W	
R278	1-249-427-11	CARBON	6.8K	5%	1/4W	
R279	1-215-413-00	METAL	470	1%	1/4W	
R281	1-260-296-11	CARBON	2.2	5%	1/2W	
R282	1-260-296-11	CARBON	2.2	5%	1/2W	
R284	1-215-467-00	METAL	82K	1%	1/4W	
R285	1-215-445-00	METAL	10K	1%	1/4W	
R286	1-215-911-11	METAL OXIDE	100	5%	3W	F
R287	1-202-727-00	SOLID	4.7M	20%	1/2W	
R288	1-202-727-00	SOLID	4.7M	20%	1/2W	
R289	1-202-727-00	SOLID	4.7M	20%	1/2W	
R290	1-202-727-00	SOLID	4.7M	20%	1/2W	
R296	1-249-429-11	CARBON	10K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV101	1-238-791-11	RES, ADJ, CERMET 200K				
RV102	1-238-787-11	RES, ADJ, CERMET 10K				
RV104	1-238-790-11	RES, ADJ, CERMET 100K				
		< RELAY >				
RY1	* 1-515-868-11	RELAY				
		< TRANSFORMER >				
T102	1-439-480-11	TRANSFORMER, HORIZONTAL OUTPUT				
T103	1-437-144-11	TRANSFORMER, FERRITE (HDT)				
T104	1-437-144-11	TRANSFORMER, FERRITE (HDT)				

REF NO.	PART NO.	DESCRIPTION			REMARK
T105	1-429-981-11	TRANSFORMER, HORIZONTAL LINEAR			
T106	1-429-981-11	TRANSFORMER, HORIZONTAL LINEAR			
		< TEST PIN >			
TP1	1-537-864-11	PIN, POST			
TP2	1-537-864-11	PIN, POST			
TP3	1-537-864-11	PIN, POST			
TP4	1-537-864-11	PIN, POST			
TP5	1-537-864-11	PIN, POST			
TP6	1-537-864-11	PIN, POST			
TP7	1-537-864-11	PIN, POST			
TP8	1-537-864-11	PIN, POST			
TP9	1-537-864-11	PIN, POST			
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	* A-1343-259-A	EA MOUNTED PC BOARD			
		******************			
		< CAPACITOR >			
C701	1-136-153-00	FILM	0.01MF	5%	50V
C702	1-136-165-00	FILM	0.1MF	5%	50V
C703	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C704	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C705	1-136-165-00	FILM	0.1MF	5%	50V
C706	1-136-153-00	FILM	0.01MF	5%	50V
C707	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C708	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C709	1-136-153-00	FILM	0.01MF	5%	50V
C710	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C711	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
		< CONNECTOR >			
CN535	* 1-774-245-11	CONNECTOR, BOARD TO BOARD 8P			
CN536	* 1-774-245-11	CONNECTOR, BOARD TO BOARD 8P			
		< IC >			
IC701	8-759-100-96	IC µPC4558G2			
IC702	8-759-100-96	IC µPC4558G2			
IC703	8-759-100-96	IC µPC4558G2			
		< RESISTOR >			
R701	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R702	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R703	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R704	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R705	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R706	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R707	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R708	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R709	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R710	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R711	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R712	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R713	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R714	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R715	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R716	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R717	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R718	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R719	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R720	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R721	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
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	* A-1343-198-A	EB MOUNTED PC BOARD			
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	* A-1346-535-A	EB COMPLETE PC BOARD (Include EBA, EBB Mounted PC BOARD)			
		******************			
	3-701-809-31	SCREW, TERMINAL (M3X8)			
	7-682-549-04	SCREW, TERMINAL (M3X10)			
	* 4-056-076-01	PIN, GUIDE			
	4-056-081-01	HOLDER (EBA), TR			
	4-056-082-01	HOLDER (EBB), TR			
	* 4-056-083-01	SHEET (EB), INSULATING			
	* 4-056-084-02	HEAT SINK (EB)			
	* 4-057-761-02	HEAT SINK (A)			
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)			
	7-682-949-01	SCREW +PSW 3X10			
		< CAPACITOR >			
C700	1-107-930-91	ELECT	22MF	20%	63V
C701	1-107-923-11	ELECT	330MF	20%	63V
C702	1-106-367-00	MYLAR	0.01MF	10%	100V
C703	1-107-504-11	CERAMIC	10PF	0.5PF	500V
C704	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C705	1-107-930-91	ELECT	22MF	20%	63V
C706	1-106-367-00	MYLAR	0.01MF	10%	100V
C717	1-107-906-11	ELECT	10MF	20%	50V
C718	1-107-909-11	ELECT	47MF	20%	50V
C720	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C723	1-136-169-00	FILM	0.22MF	5%	50V
C725	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C726	1-107-909-11	ELECT	47MF	20%	50V
C801	1-107-930-91	ELECT	22MF	20%	63V
C802	1-106-367-00	MYLAR	0.01MF	10%	100V
C803	1-107-504-11	CERAMIC	10PF	0.5PF	500V
C804	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C805	1-107-930-91	ELECT	22MF	20%	63V
C806	1-106-367-00	MYLAR	0.01MF	10%	100V
C807	1-107-909-11	ELECT	47MF	20%	50V
C808	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C809	1-136-169-00	FILM	0.22MF	5%	50V
C810	1-107-909-11	ELECT	47MF	20%	50V
C811	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C817	1-107-906-11	ELECT	10MF	20%	50V
C901	1-107-930-91	ELECT	22MF	20%	63V
C902	1-106-367-00	MYLAR	0.01MF	10%	100V
C903	1-107-504-11	CERAMIC	10PF	0.5PF	500V
C904	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C905	1-107-930-91	ELECT	22MF	20%	63V
C906	1-106-367-00	MYLAR	0.01MF	10%	100V
C907	1-107-909-11	ELECT	47MF	20%	50V
C908	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C909	1-136-169-00	FILM	0.22MF	5%	50V
C910	1-107-909-11	ELECT	47MF	20%	50V

REF NO.	PART NO.	DESCRIPTION				REMARK
C911	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C917	1-107-906-11	ELECT	10MF	20%	50V	
C1001	1-107-914-11	ELECT	1000MF	20%	25V	
C1002	1-128-526-11	ELECT	100MF	20%	25V	
C1003	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1004	1-104-653-11	ELECT	220MF	20%	16V	
C1006	1-128-526-11	ELECT	100MF	20%	25V	
C1007	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C1008	1-104-653-11	ELECT	220MF	20%	16V	
C1009	1-107-923-11	ELECT	330MF	20%	63V	
C1010	1-107-914-11	ELECT	1000MF	20%	25V	
C1011	1-108-702-11	MYLAR	0.068MF	10%	100V	
C1012	1-107-923-11	ELECT	330MF	20%	63V	
C1014	1-107-906-11	ELECT	10MF	20%	50V	
C1015	1-108-702-11	MYLAR	0.068MF	10%	100V	
C1016	1-107-914-11	ELECT	1000MF	20%	25V	
C1017	1-107-923-11	ELECT	330MF	20%	63V	
C1020	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
C1021	1-102-050-00	CERAMIC	0.01MF	0.99	500V	
		< CONNECTOR >				
CN142	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P				
CN143	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P				
CN144	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P				
CN145	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P				
CN147	* 1-774-246-11	CONNECTOR, BOARD TO BOARD 10P				
		< DIODE >				
D701	8-719-801-78	DIODE 1SS184				
D801	8-719-801-78	DIODE 1SS184				
D901	8-719-801-78	DIODE 1SS184				
D1001	8-719-801-78	DIODE 1SS184				
D1002	8-719-025-11	DIODE D8LC20UR				
D1003	8-719-801-78	DIODE 1SS184				
D1004	8-719-106-89	DIODE RD15M-T1B2				
D1005	8-719-025-10	DIODE D8LC20U				
D1006	8-719-105-82	DIODE RD5.1M-B2				
D1007	8-719-106-89	DIODE RD15M-T1B2				
		< IC >				
IC704	8-759-336-63	IC LM675T				
IC801	8-759-336-63	IC LM675T				
IC901	8-759-336-63	IC LM675T				
IC1001	8-759-701-88	IC NJM7912FA				
IC1002	8-759-231-58	IC TA7812S				
		< COIL >				
L1001	1-412-533-21	INDUCTOR	47µH			
L1002	1-412-533-21	INDUCTOR	47µH			
L1003	1-412-533-21	INDUCTOR	47µH			
L1004	1-410-645-31	INDUCTOR	100µH			
L1005	1-412-533-21	INDUCTOR	47µH			
L1006	1-410-645-31	INDUCTOR	100µH			
L1007	1-406-975-21	COIL, CHOKE	47µH			
L1008	1-406-975-21	COIL, CHOKE	47µH			
		< TRANSISTOR >				
Q701	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q702	8-729-021-75	TRANSISTOR 2SC4689-RO				
Q703	8-729-021-76	TRANSISTOR 2SA1804-RO				

REF NO.	PART NO.	DESCRIPTION				REMARK
Q704	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q705	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q706	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q707	8-729-021-75	TRANSISTOR 2SC4689-RO				
Q801	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q802	8-729-021-75	TRANSISTOR 2SC4689-RO				
Q803	8-729-021-76	TRANSISTOR 2SA1804-RO				
Q804	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q805	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q806	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q807	8-729-021-75	TRANSISTOR 2SC4689-RO				
Q901	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q902	8-729-021-75	TRANSISTOR 2SC4689-RO				
Q903	8-729-021-76	TRANSISTOR 2SA1804-RO				
Q904	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q905	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q906	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q907	8-729-021-75	TRANSISTOR 2SC4689-RO				
Q1001	8-729-142-69	TRANSISTOR 2SK817				
Q1003	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q1004	8-729-142-68	TRANSISTOR 2SJ143				
Q1005	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
		< RESISTOR >				
R701	1-249-393-11	CARBON	10	5%	1/4W	F
R702	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R703	1-216-623-11	METAL CHIP	68	0.5%	1/10W	
R704	1-215-874-11	METAL OXIDE	6.8K	5%	1W	F
R705	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R706	1-260-304-51	CARBON	10	5%	1/2W	
R707	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R708	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R709	1-260-304-51	CARBON	10	5%	1/2W	
R713	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R714	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R715	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R716	1-249-393-11	CARBON	10	5%	1/4W	F
R730	1-260-304-51	CARBON	10	5%	1/2W	
R731	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R732	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R735	1-249-389-11	CARBON	4.7	5%	1/4W	F
R739	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R740	1-249-389-11	CARBON	4.7	5%	1/4W	
R741	1-249-380-11	CARBON	0.82	5%	1/4W	F
R744	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R746	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R747	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R748	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R749	1-249-389-11	CARBON	4.7	5%	1/4W	F
R801	1-249-393-11	CARBON	10	5%	1/4W	F
R802	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R803	1-216-623-11	METAL CHIP	68	0.5%	1/10W	
R804	1-215-874-11	METAL OXIDE	6.8K	5%	1W	F
R805	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R806	1-260-304-51	CARBON	10	5%	1/2W	
R807	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R808	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R809	1-260-304-51	CARBON	10	5%	1/2W	
R813	1-216-033-00	METAL GLAZE	220	5%	1/10W	

EB EBA EBB

REF NO.	PART NO.	DESCRIPTION				REMARK
R814	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R815	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R816	1-249-393-11	CARBON	10	5%	1/4W	F
R817	1-249-389-11	CARBON	4.7	5%	1/4W	F
R818	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R819	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R820	1-249-380-11	CARBON	0.82	5%	1/4W	F
R821	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R822	1-249-389-11	CARBON	4.7	5%	1/4W	
R824	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R825	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R826	1-249-389-11	CARBON	4.7	5%	1/4W	F
R830	1-260-304-51	CARBON	10	5%	1/2W	
R831	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R832	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R901	1-249-393-11	CARBON	10	5%	1/4W	F
R902	1-216-647-11	METAL CHIP	680	0.5%	1/10W	
R903	1-216-623-11	METAL CHIP	68	0.5%	1/10W	
R904	1-215-874-11	METAL OXIDE	6.8K	5%	1W	F
R905	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R906	1-260-304-51	CARBON	10	5%	1/2W	
R907	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R908	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R909	1-260-304-51	CARBON	10	5%	1/2W	
R913	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R914	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R915	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R917	1-249-393-11	CARBON	10	5%	1/4W	F
R918	1-249-389-11	CARBON	4.7	5%	1/4W	F
R919	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R920	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R921	1-249-380-11	CARBON	0.82	5%	1/4W	F
R922	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R923	1-249-389-11	CARBON	4.7	5%	1/4W	
R925	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R926	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R927	1-249-389-11	CARBON	4.7	5%	1/4W	F
R930	1-260-304-51	CARBON	10	5%	1/2W	
R931	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R932	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R1001	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1002	1-216-005-00	METAL GLAZE	15	5%	1/10W	
R1003	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1004	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1005	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1006	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1007	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1008	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1009	1-216-005-00	METAL GLAZE	15	5%	1/10W	

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* A-1343-196-A EBA MOUNTED PC BOARD
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< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C301	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C302	1-136-169-00	FILM	0.22MF	5%	50V	
C303	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C305	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C307	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C308	1-136-169-00	FILM	0.22MF	5%	50V	
C309	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

< CONNECTOR >

REF NO.	PART NO.	DESCRIPTION
CN147	* 1-774-246-11	CONNECTOR, BOARD TO BOARD 10P

< IC >

REF NO.	PART NO.	DESCRIPTION
IC301	8-759-100-96	IC μPC4558G2
IC302	8-759-381-53	IC μPC814G2-E2

< RESISTOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
R301	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	
R302	1-216-651-11	METAL CHIP	1K	0.5%	1/10W	
R303	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R304	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R305	1-216-627-11	METAL CHIP	100	0.5%	1/10W	
R306	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W	
R307	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R309	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R310	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R312	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R313	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R314	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R315	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R316	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R317	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R318	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R319	1-216-645-11	METAL CHIP	560	0.5%	1/10W	

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* A-1343-197-A EBB MOUNTED PC BOARD
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< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C401	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C402	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C403	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C404	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C406	1-136-169-00	FILM	0.22MF	5%	50V	
C407	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C408	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C409	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C411	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

< CONNECTOR >

REF NO.	PART NO.	DESCRIPTION
CN146	* 1-774-246-11	CONNECTOR, BOARD TO BOARD 10P

< DIODE >

REF NO.	PART NO.	DESCRIPTION
D401	8-719-801-78	DIODE 1SS184
D402	8-719-801-78	DIODE 1SS184
D403	8-719-801-78	DIODE 1SS184

< IC >

REF NO.	PART NO.	DESCRIPTION
IC401	8-759-105-49	IC μPC319G2
IC402	8-759-105-49	IC μPC319G2

REF NO.	PART NO.	DESCRIPTION			REMARK
		< TRANSISTOR >			
Q401	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q402	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q403	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q404	8-729-216-22	TRANSISTOR 2SA1162-G			
Q405	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q406	8-729-033-10	TRANSISTOR 2SC3776-CD-AA			
Q407	8-729-216-22	TRANSISTOR 2SA1162-G			
		< RESISTOR >			
R401	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R402	1-216-041-00	METAL GLAZE	470	5%	1/10W
R403	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R404	1-216-041-00	METAL GLAZE	470	5%	1/10W
R405	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R406	1-216-001-00	METAL GLAZE	10	5%	1/10W
R407	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R408	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R409	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R410	1-216-017-91	METAL GLAZE	47	5%	1/10W
R411	1-216-017-91	METAL GLAZE	47	5%	1/10W
R412	1-216-017-91	METAL GLAZE	47	5%	1/10W
R413	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R414	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R415	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R416	1-216-001-00	METAL GLAZE	10	5%	1/10W
R417	1-216-001-00	METAL GLAZE	10	5%	1/10W
R418	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R419	1-216-041-00	METAL GLAZE	470	5%	1/10W
R420	1-216-043-91	METAL GLAZE	560	5%	1/10W
R421	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R422	1-216-041-00	METAL GLAZE	470	5%	1/10W
R423	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R424	1-216-017-91	METAL GLAZE	47	5%	1/10W
R425	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R426	1-216-041-00	METAL GLAZE	470	5%	1/10W
R427	1-216-017-91	METAL GLAZE	47	5%	1/10W
R428	1-216-041-00	METAL GLAZE	470	5%	1/10W
R429	1-216-047-91	METAL GLAZE	820	5%	1/10W
R430	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R431	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R432	1-216-017-91	METAL GLAZE	47	5%	1/10W
R433	1-216-017-91	METAL GLAZE	47	5%	1/10W
R434	1-216-001-00	METAL GLAZE	10	5%	1/10W

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* A-1346-536-A	EC COMPLETE PC BOARD (Include ECA Mounted PC BOARD)

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3-701-809-31	SCREW, TERMINAL (M3X8)
* 4-056-076-01	PIN, GUIDE
4-056-086-01	HOLDER (EC), TR
* 4-056-087-01	HEAT SINK (EC)
* 4-056-088-01	SHEET (EC), INSULATING
* 4-378-611-51	HEAT SINK (E)(Q430)
* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)
7-682-949-01	SCREW +PSW 3X10 (Q430)

REF NO.	PART NO.	DESCRIPTION			REMARK
		< CAPACITOR >			
C1	1-107-910-11	ELECT	100MF	20%	50V
C2	1-107-906-11	ELECT	10MF	20%	50V
C3	1-107-910-11	ELECT	100MF	20%	50V
C4	1-107-906-11	ELECT	10MF	20%	50V
C6	1-107-906-11	ELECT	10MF	20%	50V
C7	1-128-526-11	ELECT	100MF	20%	16V
C101	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C104	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C105	1-107-504-11	CERAMIC	10PF	0.5PF	500V
C106	1-107-930-91	ELECT	22MF	20%	63V
C107	1-107-930-91	ELECT	22MF	20%	63V
C111	1-107-889-11	ELECT	220MF	20%	25V
C112	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C113	1-107-889-11	ELECT	220MF	20%	25V
C114	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C115	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C201	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C204	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C205	1-107-504-11	CERAMIC	10PF	0.5PF	500V
C206	1-107-930-91	ELECT	22MF	20%	63V
C207	1-107-930-91	ELECT	22MF	20%	63V
C211	1-107-889-11	ELECT	220MF	20%	25V
C212	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C213	1-107-889-11	ELECT	220MF	20%	25V
C214	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C215	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C301	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C304	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C305	1-107-504-11	CERAMIC	10PF	0.5PF	500V
C306	1-107-930-91	ELECT	22MF	20%	63V
C307	1-107-930-91	ELECT	22MF	20%	63V
C311	1-107-889-11	ELECT	220MF	20%	25V
C312	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C313	1-107-889-11	ELECT	220MF	20%	25V
C314	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C315	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C401	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C404	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C405	1-107-504-11	CERAMIC	10PF	0.5PF	500V
C406	1-107-930-91	ELECT	22MF	20%	63V
C407	1-107-930-91	ELECT	22MF	20%	63V
C411	1-107-889-11	ELECT	220MF	20%	25V
C412	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C413	1-107-889-11	ELECT	220MF	20%	25V
C414	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C415	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C430	1-107-914-11	ELECT	1000MF	20%	25V
C431	1-136-165-00	FILM	0.1MF	5%	50V
C432	1-107-905-11	ELECT	4.7MF	20%	50V
C433	1-136-165-00	FILM	0.1MF	5%	50V
C434	1-107-906-11	ELECT	10MF	20%	50V
C435	1-136-165-00	FILM	0.1MF	5%	50V
C436	1-107-909-11	ELECT	47MF	20%	50V
C437	1-107-909-11	ELECT	47MF	20%	50V
C438	1-104-664-11	ELECT	47MF	20%	25V
C501	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C504	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V

EC

REF NO.	PART NO.	DESCRIPTION				REMARK
C505	1-107-504-11	CERAMIC	10PF	0.5PF	500V	
C506	1-107-930-91	ELECT	22MF	20%	63V	
C507	1-107-930-91	ELECT	22MF	20%	63V	
C511	1-107-889-11	ELECT	220MF	20%	25V	
C512	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C513	1-107-889-11	ELECT	220MF	20%	25V	
C514	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C515	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C601	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C604	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C605	1-107-504-11	CERAMIC	10PF	0.5PF	500V	
C606	1-107-930-91	ELECT	22MF	20%	63V	
C607	1-107-930-91	ELECT	22MF	20%	63V	
C611	1-107-889-11	ELECT	220MF	20%	25V	
C612	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C613	1-107-889-11	ELECT	220MF	20%	25V	
C614	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C615	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
		< CONNECTOR >				
CN132	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P				
CN133	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P				
CN134	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P				
		< DIODE >				
D1	8-719-801-78	DIODE 1SS184				
D2	8-719-801-78	DIODE 1SS184				
D3	8-719-105-82	DIODE RD5.1M-B2				
D102	8-719-801-78	DIODE 1SS184				
D202	8-719-801-78	DIODE 1SS184				
D302	8-719-801-78	DIODE 1SS184				
D402	8-719-801-78	DIODE 1SS184				
D430	8-719-801-78	DIODE 1SS184				
D431	8-719-801-78	DIODE 1SS184				
D432	8-719-801-78	DIODE 1SS184				
D502	8-719-801-78	DIODE 1SS184				
D602	8-719-801-78	DIODE 1SS184				
		< IC >				
IC1	8-759-231-58	IC TA7812S				
IC2	8-759-701-88	IC NJM7912FA				
IC430	8-759-100-96	IC µPC4558G2				
IC431	8-759-100-96	IC µPC4558G2				
IC432	8-759-908-15	IC TL431CLP				
IC433	8-759-947-34	IC LM35DZ				
		< COIL >				
L1	1-406-663-21	COIL, CHOKE	47µH			
L2	1-406-663-21	COIL, CHOKE	47µH			
L3	1-412-533-21	INDUCTOR	47µH			
L4	1-412-533-21	INDUCTOR	47µH			
L430	1-406-657-11	COIL, CHOKE	4.7µH			
		< TRANSISTOR >				
Q1	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q3	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q4	8-729-027-38	TRANSISTOR DTA144EKA-T146				
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q101	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q102	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q103	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q104	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q105	8-729-033-01	TRANSISTOR 2SD1459				
Q106	8-729-805-98	TRANSISTOR 2SB1037-Q				
Q107	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q201	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q202	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q203	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q204	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q205	8-729-033-01	TRANSISTOR 2SD1459				
Q206	8-729-805-98	TRANSISTOR 2SB1037-Q				
Q207	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q301	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q302	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q303	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q304	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q305	8-729-033-01	TRANSISTOR 2SD1459				
Q306	8-729-805-98	TRANSISTOR 2SB1037-Q				
Q307	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q401	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q402	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q403	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q404	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q405	8-729-033-01	TRANSISTOR 2SD1459				
Q406	8-729-805-98	TRANSISTOR 2SB1037-Q				
Q407	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q430	8-729-033-97	TRANSISTOR 2SB1566E				
Q431	8-729-140-96	TRANSISTOR 2SD774-34				
Q432	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q501	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q502	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q503	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q504	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q505	8-729-033-01	TRANSISTOR 2SD1459				
Q506	8-729-805-98	TRANSISTOR 2SB1037-Q				
Q507	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q601	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q602	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q603	8-729-207-89	TRANSISTOR 2SA1358-Y				
Q604	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q605	8-729-033-01	TRANSISTOR 2SD1459				
Q606	8-729-805-98	TRANSISTOR 2SB1037-Q				
Q607	8-729-027-59	TRANSISTOR DTC144EKA-T146				
		< RESISTOR >				
R1	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R2	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R3	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R4	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R5	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R6	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R7	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R8	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R101	1-216-625-11	METAL CHIP	82	0.5%	1/10W	
R109	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R110	1-216-437-00	METAL OXIDE	5.6K	5%	1W	F
R111	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R112	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R113	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R114	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R115	1-260-304-51	CARBON	10	5%	1/2W	
R116	1-260-304-51	CARBON	10	5%	1/2W	
R117	1-249-397-11	CARBON	22	5%	1/4W	F
R118	1-249-397-11	CARBON	22	5%	1/4W	F
R119	1-249-389-11	CARBON	4.7	5%	1/4W	F
R120	1-249-389-11	CARBON	4.7	5%	1/4W	F
R123	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R201	1-216-625-11	METAL CHIP	82	0.5%	1/10W	
R209	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R210	1-216-437-00	METAL OXIDE	5.6K	5%	1W	F
R211	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R212	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R213	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R214	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R215	1-260-304-51	CARBON	10	5%	1/2W	
R216	1-260-304-51	CARBON	10	5%	1/2W	
R217	1-249-397-11	CARBON	22	5%	1/4W	F
R218	1-249-397-11	CARBON	22	5%	1/4W	F
R219	1-249-389-11	CARBON	4.7	5%	1/4W	F
R220	1-249-389-11	CARBON	4.7	5%	1/4W	F
R223	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R301	1-216-625-11	METAL CHIP	82	0.5%	1/10W	
R309	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R310	1-216-437-00	METAL OXIDE	5.6K	5%	1W	F
R311	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R312	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R313	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R314	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R315	1-260-304-51	CARBON	10	5%	1/2W	
R316	1-260-304-51	CARBON	10	5%	1/2W	
R317	1-249-397-11	CARBON	22	5%	1/4W	F
R318	1-249-397-11	CARBON	22	5%	1/4W	F
R319	1-249-389-11	CARBON	4.7	5%	1/4W	F
R320	1-249-389-11	CARBON	4.7	5%	1/4W	F
R323	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R401	1-216-625-11	METAL CHIP	82	0.5%	1/10W	
R409	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R410	1-216-437-00	METAL OXIDE	5.6K	5%	1W	F
R411	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R412	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R413	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R414	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R415	1-260-304-51	CARBON	10	5%	1/2W	
R416	1-260-304-51	CARBON	10	5%	1/2W	
R417	1-249-397-11	CARBON	22	5%	1/4W	F
R418	1-249-397-11	CARBON	22	5%	1/4W	F
R419	1-249-389-11	CARBON	4.7	5%	1/4W	F
R420	1-249-389-11	CARBON	4.7	5%	1/4W	F
R423	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R430	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R432	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R433	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R434	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R435	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R436	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R438	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R439	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R440	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R441	1-216-697-91	METAL CHIP	82K	0.5%	1/10W	
R442	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R443	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R444	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R445	1-215-867-00	METAL OXIDE	470	5%	1W	F
R446	1-249-417-11	CARBON	1K	5%	1/4W	
R501	1-216-625-11	METAL CHIP	82	0.5%	1/10W	
R509	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R510	1-216-437-00	METAL OXIDE	5.6K	5%	1W	F
R511	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R512	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R513	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R514	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R515	1-260-304-51	CARBON	10	5%	1/2W	
R516	1-260-304-51	CARBON	10	5%	1/2W	
R517	1-249-397-11	CARBON	22	5%	1/4W	F
R518	1-249-397-11	CARBON	22	5%	1/4W	F
R519	1-249-389-11	CARBON	4.7	5%	1/4W	F
R520	1-249-389-11	CARBON	4.7	5%	1/4W	F
R523	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R601	1-216-625-11	METAL CHIP	82	0.5%	1/10W	
R609	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R610	1-216-437-00	METAL OXIDE	5.6K	5%	1W	F
R611	1-216-633-11	METAL CHIP	180	0.5%	1/10W	
R612	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R613	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R614	1-216-643-11	METAL CHIP	470	0.5%	1/10W	
R615	1-260-304-51	CARBON	10	5%	1/2W	
R616	1-260-304-51	CARBON	10	5%	1/2W	
R617	1-249-397-11	CARBON	22	5%	1/4W	F
R618	1-249-397-11	CARBON	22	5%	1/4W	F
R619	1-249-389-11	CARBON	4.7	5%	1/4W	F
R620	1-249-389-11	CARBON	4.7	5%	1/4W	F
R623	1-216-378-11	METAL OXIDE	5.6	5%	2W	F

< VARIABLE RESISTOR >

RV430	1-238-801-11	RES, ADJ, CERMET 5K

< TEST PIN >

TP430	1-537-864-11	PIN, POST
TP431	1-537-864-11	PIN, POST

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* A-1343-199-A ECA MOUNTED PC BOARD

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< CAPACITOR >

C101	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C102	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C103	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C201	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C202	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C203	1-163-031-11	CERAMIC CHIP	0.01MF		50V

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

ECA **F** **FA**

REF NO.	PART NO.	DESCRIPTION				REMARK
		< CONNECTOR >				
CN135	* 1-774-246-11	CONNECTOR, BOARD TO BOARD 10P				
		< IC >				
IC101	8-759-381-53	IC µPC814G2-E2				
IC201	8-759-381-53	IC µPC814G2-E2				
		< RESISTOR >				
R101	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R102	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R103	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R104	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R105	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R106	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R107	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R108	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R109	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R201	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R202	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	
R203	1-216-653-11	METAL CHIP	1.2K	0.5%	1/10W	
R204	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R205	1-216-681-11	METAL CHIP	18K	0.5%	1/10W	
R206	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R207	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W	
R208	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R209	1-216-025-91	METAL GLAZE	100	5%	1/10W	
**						
	⚠ * A-1245-594-A	F COMPLETE PC BOARD				
		***********************				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C154	⚠ 1-113-920-11	CERAMIC	0.0022MF	20%	250V	
C155	⚠ 1-113-920-11	CERAMIC	0.0022MF	20%	250V	
C156	⚠ 1-113-920-11	CERAMIC	0.0022MF	20%	250V	
C157	⚠ 1-113-920-11	CERAMIC	0.0022MF	20%	250V	
C158	⚠ 1-113-920-11	CERAMIC	0.0022MF	20%	250V	
C159	⚠ 1-113-920-11	CERAMIC	0.0022MF	20%	250V	
C160	⚠ 1-107-533-11	FILM	1MF	20%	250V	
C161	⚠ 1-137-110-11	FILM	0.47MF	20%	250V	
C162	⚠ 1-137-110-11	FILM	0.47MF	20%	250V	
		< CONNECTOR >				
CN102	⚠ * 1-535-419-00	TAB, FASTEN (PCB)				
CN103	⚠ * 1-535-419-00	TAB, FASTEN (PCB)				
		< DIODE >				
D201	⚠ 8-719-921-20	DIODE 1SS119-25TD				
		< COIL >				
L151	⚠ 1-429-983-11	TRANSFORMER, LINE FILTER				
L152	⚠ 1-429-984-11	TRANSFORMER, LINE FILTER				
L153	⚠ 1-415-985-11	COIL, CHOKE 90µH				
L154	⚠ 1-415-985-11	COIL, CHOKE 90µH				

REF NO.	PART NO.	DESCRIPTION				REMARK
		< RESISTOR >				
R151	⚠ 1-202-847-00	SOLID	560K	20%	1/2W	
R152	⚠ 9-910-999-31	FUSIBLE	1	5%	5W	F
R153	⚠ 9-910-999-31	FUSIBLE	1	5%	5W	F
R154	⚠ 9-910-999-31	FUSIBLE	1	5%	5W	F
R155	⚠ 9-910-999-31	FUSIBLE	1	5%	5W	F
R156	⚠ 9-910-999-31	FUSIBLE	1	5%	5W	F
R157	⚠ 1-202-847-00	SOLID	560K	20%	1/2W	
R201	⚠ 1-215-885-00	METAL OXIDE	68	5%	2W	F
		< RELAY >				
RY151	⚠ 1-515-450-21	RELAY, POWER				
		< VARISTOR >				
VDR151	⚠ 1-809-581-11	VARISTOR				
VDR152	⚠ 1-809-581-11	VARISTOR				
**						
	⚠ * A-1245-590-A	FA COMPLETE PC BOARD (Include FAA, FAB Mounted PC BOARD)				
		*****************				
	4-034-094-01	SHEET, INSULATOR				
	* 4-054-527-11	HEAT SINK (GA)				
	4-056-103-01	SUPPORT, FA				
	* 4-374-846-01	COVER, CAPACITOR, CAP TYPE (IC160)				
	4-382-854-11	SCREW (M3X10), P, SW (+)				
	4-382-854-11	SCREW (M3X10), P, SW (+)				
		< CAPACITOR >				
C112	⚠ 1-104-665-11	ELECT	100MF	20%	25V	
C114	⚠ 1-136-165-00	FILM	0.1MF	5%	50V	
C151	⚠ 1-117-228-11	FILM	2.2MF	10%	450V	
C152	⚠ 1-117-228-11	FILM	2.2MF	10%	450V	
C153	⚠ 1-117-228-11	FILM	2.2MF	10%	450V	
C154	⚠ 1-109-987-11	ELECT	270MF	20%	450V	
C156	⚠ 1-117-228-11	FILM	2.2MF	10%	450V	
C157	⚠ 1-104-665-11	ELECT	100MF	20%	25V	
C158	⚠ 1-126-960-11	ELECT	1MF	20%	50V	
C159	⚠ 1-136-165-00	FILM	0.1MF	5%	50V	
C160	⚠ 1-113-912-11	CERAMIC	0.0047MF	20%	250V	
		< CONNECTOR >				
CN172	⚠ * 1-569-967-11	SOCKET, CONNECTOR 11P				
CN174	⚠ 1-778-896-11	SOCKET, CONNECTOR (PLUG)				
CN175	⚠ 1-778-896-11	SOCKET, CONNECTOR (PLUG)				
		< DIODE >				
D151	⚠ 8-719-060-53	DIODE RBV-2506				
D152	⚠ 8-719-044-70	DIODE S16L60				
D153	⚠ 8-719-510-18	DIODE D1NS4-TA				
D154	⚠ 8-719-510-18	DIODE D1NS4-TA				
D155	⚠ 8-719-510-18	DIODE D1NS4-TA				
D156	⚠ 8-719-112-64	DIODE RD10ESB2				
D157	⚠ 8-719-030-48	DIODE 1JH46-TPA3				
D158	⚠ 8-719-030-48	DIODE 1JH46-TPA3				
D159	⚠ 8-719-921-20	DIODE 1SS119-25TD				
D160	⚠ 8-719-921-20	DIODE 1SS119-25TD				

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FA **FAA**

REF NO.		PART NO.	DESCRIPTION				REMARK
			< FERRITE BEAD >				
FB101	⚠	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH				
FB102	⚠	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH				
FB103	⚠	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH				
			< IC >				
IC151	⚠	8-759-198-31	IC µPC1093J-1-T				
			< COIL >				
L151	⚠	1-415-986-11	COIL, CHOKE 420µH				
			< TRANSISTOR >				
Q151	⚠	8-729-041-01	TRANSISTOR 2SK2198				
Q152	⚠	8-729-041-01	TRANSISTOR 2SK2198				
Q153	⚠	8-729-041-01	TRANSISTOR 2SK2198				
Q155	⚠	8-729-188-22	TRANSISTOR 2SD882-Q				
Q156	⚠	8-729-177-22	TRANSISTOR 2SB772-Q				
Q157	⚠	8-729-140-99	TRANSISTOR 2SB734-34				
Q158	⚠	8-729-188-22	TRANSISTOR 2SD882-Q				
Q159	⚠	8-729-177-22	TRANSISTOR 2SB772-Q				
Q160	⚠	8-729-188-22	TRANSISTOR 2SD882-Q				
Q161	⚠	8-729-177-22	TRANSISTOR 2SB772-Q				
Q162	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
Q163	⚠	8-729-140-97	TRANSISTOR 2SB734-34				
Q165	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
Q166	⚠	8-729-139-98	TRANSISTOR 2SA1175-HFE				
Q167	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
			< RESISTOR >				
R151	⚠	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R152	⚠	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R153	⚠	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R154	⚠	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R155	⚠	1-249-401-11	CARBON	47	5%	1/4W	F
R156	⚠	1-249-401-11	CARBON	47	5%	1/4W	F
R157	⚠	1-249-381-11	CARBON	1	5%	1/4W	F
R158	⚠	1-249-381-11	CARBON	1	5%	1/4W	F
R159	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R160	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R161	⚠	1-249-401-11	CARBON	47	5%	1/4W	F
R162	⚠	1-249-381-11	CARBON	1	5%	1/4W	F
R163	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R164	⚠	1-215-397-00	METAL	100	1%	1/4W	
R165	⚠	1-215-485-00	METAL	470K	1%	1/4W	
R166	⚠	1-215-485-00	METAL	470K	1%	1/4W	
R167	⚠	1-215-485-00	METAL	470K	1%	1/4W	
R168	⚠	1-215-449-00	METAL	15K	1%	1/4W	
R169	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R170	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R171	⚠	1-249-401-11	CARBON	47	5%	1/4W	
R172	⚠	1-249-401-11	CARBON	47	5%	1/4W	
R173	⚠	1-249-401-11	CARBON	47	5%	1/4W	
R175	⚠	1-215-485-00	METAL	470K	1%	1/4W	
R176	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R177	⚠	1-247-822-11	CARBON	430	5%	1/4W	
R178	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R183	⚠	1-215-445-00	METAL	10K	1%	1/4W	
R184	⚠	1-249-437-11	CARBON	47K	5%	1/4W	
R185	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R186	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R187	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R188	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R189	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
			< THERMAL SWITCH >				
TS151	⚠	1-692-110-11	SWITCH, THERMAL GUARD				
**							
	⚠	* A-1241-264-A	FAA MOUNTED PC BOARD				
			*******************				
			< CAPACITOR >				
C1501	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C1502	⚠	1-136-173-00	FILM	0.47MF	5%	50V	
C1503	⚠	1-136-169-00	FILM	0.22MF	5%	50V	
C1504	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C1505	⚠	1-102-030-00	CERAMIC	330PF	10%	500V	
C1506	⚠	1-130-471-00	FILM	0.001MF	5%	50V	
C1507	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C1508	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C1509	⚠	1-130-471-00	MYLAR	0.001MF	5%	50V	
C1510	⚠	1-162-117-00	CERAMIC	100PF	10%	500V	
C1511	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C1512	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
			< CONNECTOR >				
CN1173	⚠	* 1-569-968-11	PLUG (WITH CONNECTOR) (L) 11P				
			< DIODE >				
D1501	⚠	8-719-510-49	DIODE D1N20R-TA				
D1502	⚠	8-719-510-18	DIODE D1NS4-TA				
D1503	⚠	8-719-510-18	DIODE D1NS4-TA				
D1504	⚠	8-719-112-34	DIODE RD7.5ESB2				
D1505	⚠	8-719-921-20	DIODE 1SS119-25TD				
D1507	⚠	8-719-050-84	DIODE RB441Q-40T-77				
			< IC >				
IC1501	⚠	8-759-191-54	IC UC3854N				
IC1502	⚠	8-759-135-80	IC µPC358C				
			< TRANSISTOR >				
Q1501	⚠	8-729-139-98	TRANSISTOR 2SA1175-HFE				
			< RESISTOR >				
R1501	⚠	1-247-897-11	CARBON	560K	5%	1/4W	
R1502	⚠	1-247-895-91	CARBON	470K	5%	1/4W	
R1503	⚠	1-249-441-11	CARBON	100K	5%	1/4W	
R1504	⚠	1-247-863-91	CARBON	22K	5%	1/4W	
R1505	⚠	1-247-897-11	CARBON	560K	5%	1/4W	
R1506	⚠	1-247-895-91	CARBON	470K	5%	1/4W	
R1507	⚠	1-247-887-00	CARBON	220K	5%	1/4W	
R1508	⚠	1-215-449-00	METAL	15K	1%	1/4W	
R1509	⚠	1-247-883-00	CARBON	150K	5%	1/4W	
R1510	⚠	1-249-441-11	CARBON	100K	5%	1/4W	

FAA **FAB** **GA**

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REF NO.		PART NO.	DESCRIPTION				REMARK
R1511	⚠	1-249-437-11	CARBON	47K	5%	1/4W	
R1512	⚠	1-249-441-11	CARBON	100K	5%	1/4W	
R1513	⚠	1-247-903-00	CARBON	1M	5%	1/4W	
R1514	⚠	1-215-435-00	METAL	3.9K	1%	1/4W	
R1515	⚠	1-247-863-91	CARBON	22K	5%	1/4W	
R1516	⚠	1-215-435-00	METAL	3.9K	1%	1/4W	
R1517	⚠	1-215-421-00	METAL	1K	1%	1/4W	
R1518	⚠	1-215-453-00	METAL	22K	1%	1/4W	
R1519	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R1520	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R1522	⚠	1-247-895-91	CARBON	470K	5%	1/4W	
R1524	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R1529	⚠	1-215-475-00	METAL	180K	1%	1/4W	
R1530	⚠	1-215-475-00	METAL	180K	1%	1/4W	
R1531	⚠	1-215-475-00	METAL	180K	1%	1/4W	
R1532	⚠	1-215-425-00	METAL	1.5K	1%	1/4W	
R1533	⚠	1-215-444-00	METAL	9.1K	1%	1/4W	
			< VARIABLE RESISTOR >				
RV1501	⚠	1-241-762-11	RES, ADJ, CARBON 2.2K				
**							
	⚠	* A-1241-266-A	FAB MOUNTED PC BOARD ********************				
			< CAPACITOR >				
C2101	⚠	1-136-209-11	FILM	0.1MF	10%	630V	
C2102	⚠	1-164-644-11	CERAMIC	330PF	10%	500V	
C2103	⚠	1-164-644-11	CERAMIC	330PF	10%	500V	
C2104	⚠	1-136-066-00	FILM	0.003MF	0.03	2KV	
C2105	⚠	1-136-162-00	FILM	0.056MF	5%	50V	
C2106	⚠	1-136-162-00	FILM	0.056MF	5%	50V	
C2107	⚠	1-136-167-00	FILM	0.15MF	5%	50V	
C2108	⚠	1-136-167-00	FILM	0.15MF	5%	50V	
C2110	⚠	1-111-084-11	ELECT	220MF	20%	35V	
C2112	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C2201	⚠	1-115-742-11	ELECT	0.0027F	20%	10V	
C2202	⚠	1-126-941-11	ELECT	470MF	20%	25V	
C2203	⚠	1-126-933-11	ELECT	100MF	20%	10V	
C2204	⚠	1-104-665-11	ELECT	100MF	20%	25V	
C2205	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C2206	⚠	1-136-171-00	FILM	0.33MF	5%	50V	
C2207	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C2208	⚠	1-107-905-11	ELECT	4.7MF	20%	50V	
			< CONNECTOR >				
CN2177	⚠	1-778-897-11	SOCKET, CONNECTOR (RECEPTACLE)				
CN2178	⚠	1-778-897-11	SOCKET, CONNECTOR (RECEPTACLE)				
			< DIODE >				
D2108	⚠	8-719-510-39	DIODE D10LC20U				
D2201	⚠	8-719-510-12	DIODE D10SC4M				
D2202	⚠	8-719-510-12	DIODE D10SC4M				
D2203	⚠	8-719-921-20	DIODE 1SS119-25TD				
			< IC >				
IC2201	⚠	8-759-198-31	IC µPC1093J-1-T				

REF NO.		PART NO.	DESCRIPTION				REMARK
			< COIL >				
L2201	⚠	1-406-703-11	COIL, CHOKE (PC8-3R3M) 3.3µH				
L2202	⚠	1-406-703-11	COIL, CHOKE (PC8-3R3M) 3.3µH				
			< PHOTO COUPLER >				
PH2101		8-749-010-64	PHOTO COUPLER PC123F2				
			< TRANSISTOR >				
Q2103	⚠	8-729-177-22	TRANSISTOR 2SB772-Q				
Q2201	⚠	8-729-139-98	TRANSISTOR 2SA1175-HFE				
Q2203	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
			< RESISTOR >				
R2101	⚠	1-249-470-11	CARBON	0.47	5%	1/2W	F
R2102	⚠	1-247-887-00	CARBON	220K	5%	1/4W	
R2103	⚠	1-247-887-00	CARBON	220K	5%	1/4W	
R2104	⚠	1-247-887-00	CARBON	220K	5%	1/4W	
R2105	⚠	1-247-887-00	CARBON	220K	5%	1/4W	
R2106	⚠	1-249-381-11	CARBON	1	5%	1/4W	
R2107	⚠	1-249-381-11	CARBON	1	5%	1/4W	
R2110	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R2111	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R2113	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2206	⚠	1-215-429-00	METAL	2.2K	1%	1/4W	
R2207	⚠	1-215-428-00	METAL	2K	1%	1/4W	
R2208	⚠	1-247-807-31	CARBON	100	5%	1/4W	
R2209	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R2210	⚠	1-249-413-11	CARBON	470	5%	1/4W	
R2211	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R2212	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
			< TRANSFORMER >				
T2101	⚠	1-429-987-11	TRANSFORMER, CONVERTER (PIT)				
T2102	⚠	1-429-992-11	TRANSFORMER, CONVERTER (PRT)				
**							
	⚠	* A-1316-285-A	GA COMPLETE PC BOARD (Include GC Mounted PC BOARD) ******************				
		4-382-854-11	SCREW (M3X10), P, SW (+)				
			< CAPACITOR >				
C102	⚠	1-137-499-11	FILM	0.015MF	5%	630V	
C103	⚠	1-137-499-11	FILM	0.015MF	5%	630V	
C105	⚠	1-107-792-11	CERAMIC	100PF	5%	1KV	
C106	⚠	1-107-792-11	CERAMIC	100PF	5%	1KV	
C107	⚠	1-117-228-11	FILM	2.2MF	10%	450V	
C108	⚠	1-104-665-11	ELECT	100MF	20%	25V	
C130	⚠	1-109-987-11	ELECT	270MF	20%	450V	
C131	⚠	1-109-987-11	ELECT	270MF	20%	450V	
C152	⚠	1-137-499-11	FILM	0.015MF	5%	630V	
C153	⚠	1-137-499-11	FILM	0.015MF	5%	630V	
C155	⚠	1-107-792-11	CERAMIC	100PF	5%	1KV	
C156	⚠	1-107-792-11	CERAMIC	100PF	5%	1KV	
C157	⚠	1-117-228-11	FILM	2.2MF	10%	450V	
C158	⚠	1-126-941-11	ELECT	470MF	20%	25V	
C201	⚠	1-117-407-11	ELECT	47MF		160V	

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REF NO.		PART NO.	DESCRIPTION				REMARK
C202	⚠	1-107-965-11	ELECT	100MF	20%	250V	
C203	⚠	1-107-943-11	ELECT	10MF	20%	160V	
C204	⚠	1-107-957-11	ELECT	1MF	20%	250V	
C205	⚠	1-104-664-11	ELECT	47MF	20%	25V	
C206	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C208	⚠	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C209	⚠	1-130-467-00	MYLAR	470PF	5%	50V	
C211	⚠	1-117-407-11	ELECT	47MF		160V	
C212	⚠	1-107-965-11	ELECT	100MF	20%	250V	
C222	⚠	1-104-665-11	ELECT	100MF	20%	25V	
C251	⚠	1-117-407-11	ELECT	47MF		160V	
C252	⚠	1-117-407-11	ELECT	47MF		160V	
C253	⚠	1-107-943-11	ELECT	10MF	20%	160V	
C254	⚠	1-130-467-00	MYLAR	470PF	5%	50V	
C255	⚠	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C256	⚠	1-104-664-11	ELECT	47MF	20%	25V	
C257	⚠	1-117-407-11	ELECT	47MF		160V	
C260	⚠	1-130-471-00	MYLAR	0.001MF	5%	50V	
			< CONNECTOR >				
CN112	⚠	* 1-573-896-11	SOCKET, CONNECTOR 12P				
CN113	⚠	* 1-573-896-11	SOCKET, CONNECTOR 12P				
			< DIODE >				
D131	⚠	8-719-030-48	DIODE 1JH46-TPA3				
D201	⚠	8-719-059-74	DIODE F10P40F				
D202	⚠	8-719-054-38	DIODE FCF10A60				
D221	⚠	8-719-030-48	DIODE 1JH46-TPA3				
D251	⚠	8-719-059-74	DIODE F10P40F				
			< IC >				
IC201	⚠	8-759-198-31	IC µPC1093J-1-T				
IC202	⚠	8-759-135-80	IC µPC358C				
			< COIL >				
L101	⚠	1-406-979-11	COIL, CHOKE	220µH			
L151	⚠	1-406-979-11	COIL, CHOKE	220µH			
L201	⚠	1-412-525-31	INDUCTOR	10µH			
L202	⚠	1-403-588-11	CIL, CHOKE	22µH			
L251	⚠	1-412-525-31	INDUCTOR	10µH			
			< PHOTO COUPLER >				
PH101	⚠	8-749-010-65	PHOTO COUPLER PC123FY2				
PH102	⚠	8-749-010-65	PHOTO COUPLER PC123FY2				
PH151	⚠	8-749-010-65	PHOTO COUPLER PC123FY2				
PH152	⚠	8-749-010-65	PHOTO COUPLER PC123FY2				
			< TRANSISTOR >				
Q101	⚠	8-729-023-20	TRANSISTOR 2SK1567				
Q102	⚠	8-729-023-20	TRANSISTOR 2SK1567				
Q151	⚠	8-729-023-20	TRANSISTOR 2SK1567				
Q152	⚠	8-729-023-20	TRANSISTOR 2SK1567				
Q201	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
Q202	⚠	8-729-029-41	TRANSISTOR DTA124ESA-TP				
Q203	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
Q204	⚠	8-729-139-98	TRANSISTOR 2SA1175-HFE				
Q205	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
Q251	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
Q252	⚠	8-729-029-41	TRANSISTOR DTA124ESA-TP				

REF NO.		PART NO.	DESCRIPTION				REMARK
Q253	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
Q254	⚠	8-729-139-98	TRANSISTOR 2SA1175-HFE				
Q255	⚠	8-729-139-96	TRANSISTOR 2SC2785-HFE				
			< RESISTOR >				
R101	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R102	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R103	⚠	1-202-933-61	FUSIBLE	10%	10%	1/2W	F
R104	⚠	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R105	⚠	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R106	⚠	1-249-414-11	CARBON	560	5%	1/4W	
R107	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R109	⚠	1-247-863-91	CARBON	22K	5%	1/4W	
R151	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R152	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R153	⚠	1-202-933-61	FUSIBLE	10%	10%	1/2W	F
R154	⚠	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R155	⚠	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R156	⚠	1-249-414-11	CARBON	560	5%	1/4W	
R157	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R158	⚠	1-249-407-11	CARBON	150	5%	1/4W	
R159	⚠	1-247-863-91	CARBON	22K	5%	1/4W	
R201	⚠	1-215-479-00	METAL	270K	1%	1/4W	
R202	⚠	1-215-476-00	METAL	200K	1%	1/4W	
R203	⚠	1-215-444-00	METAL	9.1K	1%	1/4W	
R204	⚠	1-249-405-11	CARBON	100	5%	1/4W	F
R205	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R206	⚠	1-247-895-91	CARBON	470K	5%	1/4W	
R207	⚠	1-249-441-11	CARBON	100K	5%	1/4W	
R208	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R210	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R211	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R212	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R213	⚠	1-215-481-00	METAL	330K	1%	1/4W	
R214	⚠	1-215-477-00	METAL	220K	1%	1/4W	
R215	⚠	1-215-445-00	METAL	10K	1%	1/4W	
R220	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R231	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R232	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R233	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R251	⚠	1-215-479-00	METAL	270K	1%	1/4W	
R252	⚠	1-215-476-00	METAL	200K	1%	1/4W	
R253	⚠	1-215-444-00	METAL	9.1K	1%	1/4W	
R254	⚠	1-249-405-11	CARBON	100	5%	1/4W	F
R255	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R256	⚠	1-247-895-91	CARBON	470K	5%	1/4W	
R257	⚠	1-249-441-11	CARBON	100K	5%	1/4W	
R258	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R260	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R261	⚠	1-249-429-11	CARBON	10K	5%	1/4W	
R262	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R263	⚠	1-215-481-00	METAL	330K	1%	1/4W	
R264	⚠	1-215-477-00	METAL	220K	1%	1/4W	
R265	⚠	1-215-445-00	METAL	10K	1%	1/4W	
R281	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R282	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R283	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	

GA **GB**

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REF NO.	PART NO.	DESCRIPTION				REMARK
		< VARIABLE RESISTOR >				
RV201 ⚠	1-241-762-11	RES, ADJ, CARBON 2.2K				
RV251 ⚠	1-241-762-11	RES, ADJ, CARBON 2.2K				
		< TRANSFORMER >				
T101 ⚠	1-429-988-11	TRANSFORMER, CONVERTER (PIT)				
T151 ⚠	1-429-989-11	TRANSFORMER, CONVERTER (PIT)				

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1316-286-A	GB COMPLETE PC BOARD (Include GC Mounted PC BOARD) ******************				
	4-382-854-11	SCREW (M3X10), P, SW (+)				
		< CAPACITOR >				
C102	1-137-499-11	FILM	0.015MF	5%	630V	
C103	1-137-499-11	FILM	0.015MF	5%	630V	
C105	1-107-792-11	CERAMIC	100PF	5%	1KV	
C106	1-107-792-11	CERAMIC	100PF	5%	1KV	
C107	1-117-228-11	FILM	2.2MF	10%	450V	
C108	1-104-665-11	ELECT	100MF	20%	25V	
C130	1-109-987-11	ELECT	270MF	20%	450V	
C131	1-109-987-11	ELECT	270MF	20%	450V	
C152	1-137-499-11	FILM	0.015MF	5%	630V	
C153	1-137-499-11	FILM	0.015MF	5%	630V	
C155	1-107-792-11	CERAMIC	100PF	5%	1KV	
C156	1-107-792-11	CERAMIC	100PF	5%	1KV	
C157	1-117-228-11	FILM	2.2MF	10%	450V	
C158	1-104-665-11	ELECT	100MF	20%	25V	
C201	1-111-154-51	ELECT	0.001F	20%	63V	
C202	1-111-154-51	ELECT	0.001F	20%	63V	
C203	1-111-136-11	ELECT	47MF	20%	63V	
C204	1-111-154-51	ELECT	0.001F	20%	63V	
C205	1-111-154-51	ELECT	0.001F	20%	63V	
C206	1-111-136-11	ELECT	47MF	20%	63V	
C207	1-136-171-00	FILM	0.33MF	5%	50V	
C208	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C220	1-104-665-11	ELECT	100MF	20%	25V	
C221	1-136-165-00	FILM	0.1MF	5%	50V	
C223	1-104-664-11	ELECT	47MF	20%	25V	
C251	1-111-075-51	ELECT	0.0033F	20%	25V	
C252	1-111-075-51	ELECT	0.0033F	20%	25V	
C253	1-104-665-11	ELECT	100MF	20%	25V	
C254	1-111-075-51	ELECT	0.0033F	20%	25V	
C255	1-111-075-51	ELECT	0.0033F	20%	25V	
C256	1-104-665-11	ELECT	100MF	20%	25V	
C257	1-111-021-11	ELECT	0.0033F	20%	10V	
C258	1-111-021-11	ELECT	0.0033F	20%	10V	
C259	1-126-933-11	ELECT	100MF	20%	10V	
C260	1-111-014-11	ELECT	560MF	20%	10V	
C261	1-126-933-11	ELECT	100MF	20%	10V	
C262	1-136-153-00	FILM	0.01MF	5%	50V	
C263	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C265	1-111-075-51	ELECT	0.0033F	20%	25V	
		< CONNECTOR >				
CN122	* 1-573-896-11	SOCKET, CONNECTOR 12P				
CN123	* 1-573-896-11	SOCKET, CONNECTOR 12P				

REF NO.	PART NO.	DESCRIPTION				REMARK
		< DIODE >				
D131	8-719-030-48	DIODE 1JH46-TPA3				
D201	8-719-500-41	DIODE D8LCA20				
D202	8-719-500-42	DIODE D8LCA20R				
D221	8-719-030-48	DIODE 1JH46-TPA3				
D251	8-719-510-09	DIODE D10SC6M				
D252	8-719-988-31	DIODE D10SC6MR				
D253	8-719-052-92	DIODE D10SBS4F				
		< IC >				
IC201	8-759-198-31	IC μPC1093J-1-T				
IC202	8-759-135-80	IC μPC358C				
		< COIL >				
L101	1-406-979-11	COIL, CHOKE 220μH				
L151	1-406-979-11	COIL, CHOKE 220μH				
L201	1-406-703-11	COIL, CHOKE (PC8-3R3M) 3.3μH				
L202	1-406-703-11	COIL, CHOKE (PC8-3R3M) 3.3μH				
L251	1-406-703-11	COIL, CHOKE (PC8-3R3M) 3.3μH				
L252	1-406-703-11	COIL, CHOKE (PC8-3R3M) 3.3μH				
L253	1-406-703-11	COIL, CHOKE (PC8-3R3M) 3.3μH				
L254	1-412-523-41	INDUCTOR	6.8μH			
		< PHOTO COUPLER >				
PH101	8-749-010-64	PHOTO COUPLER PC123F2				
PH102	8-749-010-64	PHOTO COUPLER PC123F2				
PH151	8-749-010-64	PHOTO COUPLER PC123F2				
		< TRANSISTOR >				
Q101	8-729-023-20	TRANSISTOR 2SK1567				
Q102	8-729-023-20	TRANSISTOR 2SK1567				
Q151	8-729-023-20	TRANSISTOR 2SK1567				
Q152	8-729-023-20	TRANSISTOR 2SK1567				
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q221	8-729-029-40	TRANSISTOR DTA124ESA				
Q222	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q223	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q224	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q227	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		< RESISTOR >				
R101	1-249-425-11	CARBON	4.7K	5%	1/4W	
R102	1-249-425-11	CARBON	4.7K	5%	1/4W	
R103	1-202-933-61	FUSIBLE	10%	10%	1/2W	F
R104	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R105	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R106	1-249-415-11	CARBON	680	5%	1/4W	
R107	1-249-417-11	CARBON	1K	5%	1/4W	
R109	1-247-863-91	CARBON	22K	5%	1/4W	
R151	1-249-425-11	CARBON	4.7K	5%	1/4W	
R152	1-249-425-11	CARBON	4.7K	5%	1/4W	
R153	1-202-933-61	FUSIBLE	10%	10%	1/2W	F
R154	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R155	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R156	1-249-415-11	CARBON	680	5%	1/4W	
R159	1-247-863-91	CARBON	22K	5%	1/4W	
R201	1-215-456-00	METAL	30K	1%	1/4W	
R202	1-215-426-00	METAL	1.6K	1%	1/4W	

REF NO.		PART NO.	DESCRIPTION				REMARK
R203		1-249-417-11	CARBON	1K	5%	1/4W	
R205		1-247-863-91	CARBON	22K	5%	1/4W	
R206		1-249-421-11	CARBON	2.2K	5%	1/4W	
R208		1-249-417-11	CARBON	1K	5%	1/4W	
R211		1-215-477-00	METAL	220K	1%	1/4W	
R212		1-249-429-11	CARBON	10K	5%	1/4W	
R220		1-249-429-11	CARBON	10K	5%	1/4W	
R225		1-249-429-11	CARBON	10K	5%	1/4W	
R226		1-249-417-11	CARBON	1K	5%	1/4W	
R227		1-249-421-11	CARBON	2.2K	5%	1/4W	
R228		1-249-417-11	CARBON	1K	5%	1/4W	
R229		1-249-421-11	CARBON	2.2K	5%	1/4W	
R251		1-215-426-00	METAL	1.6K	1%	1/4W	
R252		1-215-421-00	METAL	1K	1%	1/4W	
R253		1-249-417-11	CARBON	1K	5%	1/4W	
R254		1-249-437-11	CARBON	47K	5%	1/4W	
R255		1-249-421-11	CARBON	2.2K	5%	1/4W	
R256		1-249-417-11	CARBON	1K	5%	1/4W	
R270		1-249-421-11	CARBON	2.2K	5%	1/4W	
R271		1-249-417-11	CARBON	1K	5%	1/4W	

< VARIABLE RESISTOR >

REF NO.		PART NO.	DESCRIPTION
RV251		1-241-760-11	RES, ADJ, CARBON 470

< TRANSFORMER >

REF NO.		PART NO.	DESCRIPTION
T101		1-429-990-11	TRANSFORMER, CONVERTER (PIT)
T151		1-429-991-11	TRANSFORMER, CONVERTER (PIT)

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⚠ * A-1311-518-A GC MOUNTED PC BOARD
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< CAPACITOR >

REF NO.		PART NO.	DESCRIPTION				REMARK
C301	⚠	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C302	⚠	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C303	⚠	1-130-467-00	MYLAR	470PF	5%	50V	
C304	⚠	1-130-467-00	MYLAR	470PF	5%	50V	
C305	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C306	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C307	⚠	1-136-153-00	FILM	0.01MF	5%	50V	
C308	⚠	1-130-467-00	MYLAR	470PF	5%	50V	
C309	⚠	1-130-012-00	FILM	330PF	5%	50V	
C310	⚠	1-136-169-00	FILM	0.22MF	5%	50V	
C311	⚠	1-136-165-00	FILM	0.1MF	5%	50V	
C312	⚠	1-136-173-00	FILM	0.47MF	5%	50V	

< DIODE >

REF NO.		PART NO.	DESCRIPTION
D301	⚠	8-719-210-21	DIODE 11EQS04
D302	⚠	8-719-210-21	DIODE 11EQS04
D303	⚠	8-719-050-84	DIODE RB441Q-40T-77
D304	⚠	8-719-050-84	DIODE RB441Q-40T-77
D305	⚠	8-719-911-19	DIODE 1SS119-25
D306	⚠	8-719-929-15	DIODE HZS9.1NB2

< IC >

REF NO.		PART NO.	DESCRIPTION
IC301	⚠	8-759-298-87	IC CXA8038P

< TRANSISTOR >

REF NO.		PART NO.	DESCRIPTION
Q301	⚠	8-729-114-68	TRANSISTOR 2SB810-H
Q302	⚠	8-729-114-68	TRANSISTOR 2SB810-H
Q303	⚠	8-729-140-00	TRANSISTOR 2SD774-34

< RESISTOR >

REF NO.		PART NO.	DESCRIPTION				REMARK
R301	⚠	1-249-389-11	CARBON	4.7	5%	1/4W	F
R302	⚠	1-249-389-11	CARBON	4.7	5%	1/4W	F
R303	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R304	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R305	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R306	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	
R307	⚠	1-247-791-91	CARBON	22	5%	1/4W	
R308	⚠	1-247-843-11	CARBON	3.3K	5%	1/4W	
R309	⚠	1-247-815-91	CARBON	220	5%	1/4W	
R310	⚠	1-249-441-11	CARBON	100K	5%	1/4W	
R311	⚠	1-249-417-11	CARBON	1K	5%	1/4W	
R312	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R313	⚠	1-249-431-11	CARBON	15K	5%	1/4W	
R314	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R316	⚠	1-249-425-11	CARBON	4.7K	5%	1/4W	
R317	⚠	1-249-421-11	CARBON	2.2K	5%	1/4W	

< VARIABLE RESISTOR >

REF NO.		PART NO.	DESCRIPTION
RV301	⚠	1-241-784-11	RES, ADJ, CERMET 4.7K

< TRANSFORMER >

REF NO.		PART NO.	DESCRIPTION
T301	⚠	1-429-741-11	TRANSFORMER, DRIVE

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* A-1390-695-A L MOUNTED PC BOARD
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REF NO.	PART NO.	DESCRIPTION
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)

< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C501	1-126-967-11	ELECT	47MF	20%	16V	
C502	1-107-906-11	ELECT	10MF	20%	50V	

< CONNECTOR >

REF NO.	PART NO.	DESCRIPTION
CN105	* 1-774-244-11	CONNECTOR, BOARD TO BOARD 5P
CN107	* 1-774-245-11	CONNECTOR, BOARD TO BOARD 8P

< DIODE >

REF NO.	PART NO.	DESCRIPTION
D501	8-719-801-78	DIODE 1SS184

< IC >

REF NO.	PART NO.	DESCRIPTION
IC501	8-759-100-93	IC µPC393G2
IC502	8-759-100-93	IC µPC393G2

< TRANSISTOR >

REF NO.	PART NO.	DESCRIPTION
Q501	8-729-027-59	TRANSISTOR DTC144EKA-T146

< RESISTOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
R501	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R502	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R503	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R504	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R505	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R506	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R507	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R508	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R509	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R510	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R511	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R512	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R513	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R514	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R515	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R516	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R517	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R518	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R519	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R520	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R521	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R522	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R523	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R524	1-247-855-31	CARBON	10K	5%	1/4W	

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* A-1304-112-A MF MOUNTED PC BOARD
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< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C1	1-113-706-11	ELECT(BLOCK)	0.027PF	20%	200V	

< CONNECTOR >

REF NO.	PART NO.	DESCRIPTION	REMARK
CN201	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN202	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN203	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN204	1-564-511-11	PLUG, CONNECTOR 8P	
CN211	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN212	1-564-506-11	PLUG, CONNECTOR 3P	
CN213	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN221	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN222	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN223	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN251	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN252	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN253	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN263	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN264	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN265	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN271	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN272	1-564-510-11	PLUG, CONNECTOR 7P	
CN273	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN281	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN282	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN283	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN601	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN605	* 1-774-247-11	CONNECTOR, BOARD TO BOARD 5P	
CN607	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P	

< RESISTOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
R1	1-202-961-11	WIREWOUND	1.8	5%	10W	
R2	1-202-961-11	WIREWOUND	1.8	5%	10W	
R26	1-216-483-11	METAL OXIDE	2.7K	5%	3W	F
R27	1-216-483-11	METAL OXIDE	2.7K	5%	3W	F

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* A-1304-113-A MR MOUNTED PC BOARD
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REF NO.	PART NO.	DESCRIPTION	REMARK
	* 1-533-701-11	HOLDER, FUSE (F1)	
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)	

< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C1	1-126-942-61	ELECT	1000MF	20%	25V	
C2	1-126-942-61	ELECT	1000MF	20%	25V	
C3	1-126-942-61	ELECT	1000MF	20%	25V	
C4	1-104-666-11	ELECT	220MF	20%	25V	
C5	1-104-666-11	ELECT	220MF	20%	25V	
C6	1-104-666-11	ELECT	220MF	20%	25V	
C7	1-126-964-11	ELECT	10MF	20%	50V	

< CONNECTOR >

REF NO.	PART NO.	DESCRIPTION	REMARK
CN6	* 1-535-419-00	TAB, FASTEN (PCB)	
CN7	* 1-535-419-00	TAB, FASTEN (PCB)	
CN151	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN152	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN153	* 1-564-506-11	PLUG, CONNECTOR 3P	

< TRANSISTOR >

REF NO.	PART NO.	DESCRIPTION		REMARK
Q1	8-729-030-03	TRANSISTOR	DTC144ESA-TP	
Q2	8-729-030-03	TRANSISTOR	DTC144ESA-TP	
Q3	8-729-030-03	TRANSISTOR	DTC144ESA-TP	
Q4	8-729-030-03	TRANSISTOR	DTC144ESA-TP	

< RESISTOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
R1	1-215-908-00	METAL OXIDE	33	5%	3W	F
R2	1-215-908-00	METAL OXIDE	33	5%	3W	F
R3	1-215-908-00	METAL OXIDE	33	5%	3W	F
R4	1-247-887-00	CARBON	220K	5%	1/4W	
R5	1-247-887-00	CARBON	220K	5%	1/4W	
R6	1-247-887-00	CARBON	220K	5%	1/4W	
R7	1-249-417-11	CARBON	1K	5%	1/4W	
R8	1-249-417-11	CARBON	1K	5%	1/4W	
R9	1-249-417-11	CARBON	1K	5%	1/4W	
R10	1-215-914-11	METAL OXIDE	330	5%	3W	F
R11	1-215-914-11	METAL OXIDE	330	5%	3W	F
R12	1-215-914-11	METAL OXIDE	330	5%	3W	F
R13	1-215-914-11	METAL OXIDE	330	5%	3W	F
R14	1-215-914-11	METAL OXIDE	330	5%	3W	F
R15	1-215-914-11	METAL OXIDE	330	5%	3W	F
R16	1-215-914-11	METAL OXIDE	330	5%	3W	F
R17	1-215-914-11	METAL OXIDE	330	5%	3W	F
R18	1-215-914-11	METAL OXIDE	330	5%	3W	F
R19	1-215-915-11	METAL OXIDE	470	5%	3W	F
R20	1-215-915-11	METAL OXIDE	470	5%	3W	F
R21	1-215-915-11	METAL OXIDE	470	5%	3W	F
R22	1-249-417-11	CARBON	1K	5%	1/4W	
R23	1-249-437-11	CARBON	47K	5%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R24	1-215-914-11	METAL OXIDE	330	5%	3W	F
R25	1-215-914-11	METAL OXIDE	330	5%	3W	F
R26	1-215-914-11	METAL OXIDE	330	5%	3W	F
R27	1-216-471-11	METAL OXIDE	27	5%	3W	F
R28	1-216-471-11	METAL OXIDE	27	5%	3W	F
R29	1-216-471-11	METAL OXIDE	27	5%	3W	F

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1304-114-A	MT MOUNTED PC BOARD ******************				
	4-389-026-11	SHEET, BN				
	* 4-393-411-21	HEAT SINK, SOUND				
	7-682-949-01	SCREW +PSW 3X10				
		< CAPACITOR >				
C1	1-107-943-11	ELECT	10MF	20%	160V	
C2	1-126-795-11	ELECT	10MF	20%	50V	
C3	1-107-943-11	ELECT	10MF	20%	160V	
C4	1-107-961-91	ELECT	10MF	20%	250V	
C5	1-107-961-91	ELECT	10MF	20%	250V	
C6	1-126-795-11	ELECT	10MF	20%	50V	
C7	1-107-939-11	ELECT	1MF	20%	160V	
C8	1-107-957-11	ELECT	1MF	20%	250V	
		< CONNECTOR >				
CN550	1-564-511-11	PLUG, CONNECTOR 8P				
		< DIODE >				
D1	8-719-109-89	DIODE RD5.6ESB2				
D2	8-719-109-89	DIODE RD5.6ESB2				
		< TRANSISTOR >				
Q1	8-729-111-74	TRANSISTOR 2SD1289-Q				
Q2	8-729-207-82	TRANSISTOR 2SC3421-Y				
Q3	8-729-111-74	TRANSISTOR 2SD1289-Q				
Q4	8-729-821-02	TRANSISTOR 2SC3503-DE				
		< RESISTOR >				
R1	1-249-417-11	CARBON	1K	5%	1/4W	F
R2	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R3	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R4	1-215-465-00	METAL	68K	1%	1/4W	
R5	1-215-451-00	METAL	18K	1%	1/4W	
R6	1-215-439-00	METAL	5.6K	1%	1/4W	
R7	1-249-416-11	CARBON	820	5%	1/4W	F
R8	1-215-461-00	METAL	47K	1%	1/4W	
R9	1-215-451-00	METAL	18K	1%	1/4W	
R10	1-215-429-00	METAL	2.2K	1%	1/4W	
R11	1-215-433-00	METAL	3.3K	1%	1/4W	
R12	1-216-487-11	METAL OXIDE	12K	5%	3W	F
R13	1-216-443-11	METAL OXIDE	56K	5%	1W	F

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1390-675-A	NA MOUNTED PC BOARD ******************				
	* 4-398-771-01	CAP, LED				
		< CAPACITOR >				
C851	1-124-589-11	ELECT	47MF	20%	16V	
C852	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C853	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C854	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C863	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	
		< CONNECTOR >				
CN750	* 1-564-528-11	PLUG, CONNECTOR 13P				
		< DIODE >				
D851	8-719-955-04	DIODE PY5504S-1				
D852	8-719-920-66	DIODE SLR-54VC12				
D853	8-719-962-02	DIODE GL-6P202				
		< IC >				
IC851	8-742-020-00	HYB IC SBX1610-09				
IC852	8-759-926-77	IC SN74HC541ANS				
IC853	8-759-044-95	IC MC14495P1				
IC854	8-759-044-95	IC MC14495P1				
		< TRANSISTOR >				
Q851	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q852	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q853	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q854	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q855	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
		< RESISTOR >				
R851	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R852	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R853	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R854	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R855	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R856	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R857	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R858	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R860	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R861	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R862	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R863	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R864	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R865	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R866	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R867	1-216-025-91	METAL GLAZE	100	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1390-679-A	NB MOUNTED PC BOARD ******************				
	* 4-374-987-01	GUIDE, LIGHT				
	* 4-381-686-01	BRACKET (B), BAR, OPTICAL				
		< CAPACITOR >				
C650	1-124-589-11	ELECT	47MF	20%	16V	
C651	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	

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REF NO.	PART NO.	DESCRIPTION			REMARK
		< CONNECTOR >			
CN650	* 1-564-518-11	PLUG, CONNECTOR 3P			
		< IC >			
IC650	8-741-820-59	HYB IC SBX1820-59			
**					
	* A-1195-114-A	PA COMPLETE PC BOARD ******************			
	4-056-066-01	HOLDER (C), TR			
	4-393-406-01	SHEET (R), RADIATION			
	7-322-065-19	RUBBER, SILICON RTV (KE490W)			
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)			
	7-682-949-01	SCREW +PSW 3X10			
		< CAPACITOR >			
C1	1-101-004-00	CERAMIC	0.01MF		50V
C2	1-136-169-00	FILM	0.22MF	5%	50V
C3	1-126-964-11	ELECT	10MF	20%	50V
C4	1-128-551-11	ELECT	22MF	20%	25V
C5	1-126-961-11	ELECT	2.2MF	20%	50V
C6	1-126-964-11	ELECT	10MF	20%	50V
C7	1-104-987-11	FILM	0.001MF	5%	200V
C8	1-102-973-00	CERAMIC	100PF	5%	50V
C9	1-126-963-11	ELECT	4.7MF	20%	50V
C10	1-126-964-11	ELECT	10MF	20%	50V
C11	1-126-964-11	ELECT	10MF	20%	50V
C12	1-102-973-00	CERAMIC	100PF	5%	50V
C13	1-101-004-00	CERAMIC	0.01MF		50V
C14	1-102-973-00	CERAMIC	100PF	5%	50V
C15	1-107-651-11	ELECT	4.7MF	20%	250V
C16	1-107-651-11	ELECT	4.7MF	20%	250V
C17	1-101-004-00	CERAMIC	0.01MF		50V
C18	1-101-004-00	CERAMIC	0.01MF		50V
C19	1-126-960-11	ELECT	1MF	20%	50V
C20	1-136-165-00	FILM	0.1MF	5%	50V
C21	1-136-165-00	FILM	0.1MF	5%	50V
C22	1-126-964-11	ELECT	10MF	20%	50V
C23	1-102-973-00	CERAMIC	100PF	5%	50V
C24	1-101-004-00	CERAMIC	0.01MF		50V
C25	1-136-165-00	FILM	0.1MF	5%	50V
C26	1-136-165-00	FILM	0.1MF	5%	50V
C27	1-126-964-11	ELECT	10MF	20%	50V
C28	1-126-933-11	ELECT	100MF	20%	16V
C29	1-104-665-11	ELECT	100MF	20%	25V
C30	1-107-883-11	ELECT	330MF	20%	16V
C31	1-136-169-00	FILM	0.22MF	5%	50V
C32	1-137-366-11	FILM	0.0022MF	5%	50V
C33	1-104-666-11	ELECT	220MF	20%	25V
C34	1-137-368-11	FILM	0.0047MF	5%	50V
C35	1-102-978-00	CERAMIC	220PF	5%	50V
C36	1-137-364-11	FILM	0.001MF	5%	50V
C37	1-104-666-11	ELECT	220MF	20%	25V
C38	1-129-718-00	FILM	0.022MF	10%	630V
C39	1-101-004-00	CERAMIC	0.01MF		50V
C40	1-126-943-11	ELECT	2200MF	20%	25V
C41	1-126-929-11	ELECT	4700MF	20%	10V
C42	1-107-883-11	ELECT	330MF	20%	16V
C43	1-102-973-00	CERAMIC	100PF	5%	50V
C44	1-126-933-11	ELECT	100MF	20%	16V
C45	1-102-973-00	CERAMIC	100PF	5%	50V
C46	1-102-973-00	CERAMIC	100PF	5%	50V
C47	1-126-929-11	ELECT	4700MF	20%	10V
C48	⚠ 1-136-729-11	FILM	1.5MF	5%	400V
C49	1-126-964-11	ELECT	10MF	20%	50V
C50	1-137-364-11	FILM	0.001MF	5%	50V
C51	1-126-968-11	ELECT	100MF	20%	50V
C52	1-126-964-11	ELECT	10MF	20%	50V
C53	1-137-366-11	FILM	0.0022MF	5%	50V
C54	1-126-929-11	ELECT	4700MF	20%	10V
C55	1-123-024-21	ELECT	33MF		160V
C56	1-126-964-11	ELECT	10MF	20%	50V
C57	1-136-169-00	FILM	0.22MF	5%	50V
C58	1-137-370-11	FILM	0.01MF	5%	50V
C59	1-126-964-11	ELECT	10MF	20%	50V
C60	1-107-906-11	ELECT	10MF	20%	16V
C61	1-102-244-00	CERAMIC	220PF	10%	500V
C62	1-136-103-00	FILM	0.1MF	5%	200V
C63	1-136-613-11	FILM	0.0068MF	0.03	2KV
C64	1-123-024-21	ELECT	33MF		160V
C65	1-123-024-21	ELECT	33MF		160V
C66	1-136-085-00	FILM	0.016MF	0.03	2KV
C67	1-102-973-00	CERAMIC	100PF	5%	50V
C68	1-102-973-00	CERAMIC	100PF	5%	50V
C69	1-101-004-00	CERAMIC	0.01MF		50V
C70	1-104-987-11	FILM	0.001MF	5%	200V
C71	1-125-538-11	ELECT(BLOCK)	1000MF	20%	200V
C72	1-136-153-00	FILM	0.01MF	5%	50V
C73	1-126-600-11	ELECT	100MF	20%	160V
C74	1-107-370-11	FILM	0.1MF	10%	200V
C75	1-107-364-11	FILM	0.01MF	10%	200V
C76	1-107-370-11	FILM	0.1MF	10%	200V
C77	⚠ 1-115-174-11	FILM	12000PF	0.03	2KV
C78	1-109-889-11	ELECT	1MF	20%	50V
C79	1-104-989-91	FILM	0.0022MF	5%	200V
C80	1-126-933-11	ELECT	100MF	20%	16V
C81	1-126-933-11	ELECT	100MF	20%	16V
C82	1-136-165-00	FILM	0.1MF	5%	50V
C83	1-136-561-11	FILM	0.0068MF	10%	630V
C84	1-126-600-11	ELECT	100MF	20%	160V
C85	1-126-960-11	ELECT	1MF	20%	50V
C86	1-102-030-00	CERAMIC	330PF	10%	500V
C87	1-126-600-11	ELECT	100MF	20%	160V
C88	1-136-159-00	FILM	0.033MF	5%	50V
C89	1-102-973-00	CERAMIC	100PF	5%	50V
C90	1-126-964-11	ELECT	10MF	20%	50V
C91	1-126-964-11	ELECT	10MF	20%	50V
C92	1-126-960-11	ELECT	1MF	20%	50V
C93	1-126-964-11	ELECT	10MF	20%	50V
C94	1-126-964-11	ELECT	10MF	20%	50V
C95	1-126-960-11	ELECT	1MF	20%	50V
C96	1-126-963-11	ELECT	4.7MF	20%	50V
C97	1-107-662-11	ELECT	22MF	20%	250V
C98	1-126-963-11	ELECT	4.7MF	20%	50V
C99	1-126-964-11	ELECT	10MF	20%	50V
C100	1-101-004-00	CERAMIC	0.01MF		50V

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PA

REF NO.	PART NO.	DESCRIPTION	REMARK
C101	1-136-165-00	FILM	0.1MF 5% 50V
C102	1-136-165-00	FILM	0.1MF 5% 50V
C103	1-136-165-00	FILM	0.1MF 5% 50V
		< CONNECTOR >	
CN401	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P	
CN402	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN403	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN404	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN405	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN406	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN407	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN408	* 1-564-506-11	PLUG, CONNECTOR 3P	
		< DIODE >	
D1	8-719-109-85	DIODE RD5.1ESB2	
D2	8-719-911-19	DIODE 1SS119-25	
D3	8-719-911-19	DIODE 1SS119-25	
D4	8-719-911-19	DIODE 1SS119-25	
D5	8-719-911-19	DIODE 1SS119-25	
D6	8-719-911-19	DIODE 1SS119-25	
D7	8-719-911-19	DIODE 1SS119-25	
D8	8-719-911-19	DIODE 1SS119-25	
D9	8-719-911-19	DIODE 1SS119-25	
D10	8-719-979-58	DIODE EGP10D	
D11	8-719-911-19	DIODE 1SS119-25	
D12	8-719-109-66	DIODE RD3.3ESB2	
D13	8-719-979-58	DIODE EGP10D	
D14	8-719-054-86	DIODE ERC88M-009	
D15	8-719-900-95	DIODE V09G	
D16	8-719-054-86	DIODE ERC88M-009	
D17	8-719-110-36	DIODE RD13ESB2	
D18	8-719-911-19	DIODE 1SS119-25	
D19	8-719-110-36	DIODE RD13ESB2	
D20	8-719-911-19	DIODE 1SS119-25	
D21	8-719-054-86	DIODE ERC88M-009	
D22	8-719-900-95	DIODE V09G	
D24	8-719-901-19	DIODE V11N	
D25	8-719-110-78	DIODE RD33ESB2	
D26	8-719-911-19	DIODE 1SS119-25	
D27	8-719-920-67	DIODE ERC91-02	
D28	8-719-920-67	DIODE ERC91-02	
D29	8-719-920-67	DIODE ERC91-02	
D30	8-719-911-19	DIODE 1SS119-25	
D31	8-719-945-81	DIODE ERC06-15SA	
D32	8-719-945-81	DIODE ERC06-15SA	
D33	8-719-043-14	DIODE ESAD39M-06C	
D34	8-719-911-19	DIODE 1SS119-25	
D35	8-719-911-19	DIODE 1SS119-25	
D36	8-719-110-36	DIODE RD13ESB2	
D37	8-719-110-36	DIODE RD13ESB2	
D38	8-719-920-67	DIODE ERC91-02	
D39	8-719-911-19	DIODE 1SS119-25	
D40	8-719-911-19	DIODE 1SS119-25	
D41	8-719-911-19	DIODE 1SS119-25	
D42	8-719-911-19	DIODE 1SS119-25	
D43	8-719-109-85	DIODE RD5.1ESB2	
D44	8-719-911-19	DIODE 1SS119-25	
D45	8-719-911-19	DIODE 1SS119-25	
D46	8-719-911-19	DIODE 1SS119-25	
D51	8-719-911-19	DIODE 1SS119-25	
D52	8-719-911-19	DIODE 1SS119-25	
D53	8-719-911-19	DIODE 1SS119-25	
D54	8-719-979-58	DIODE EGP10D	
D55	8-719-900-95	DIODE V09G	
D56	8-719-911-19	DIODE 1SS119-25	
D57	8-719-911-19	DIODE 1SS119-25	
D58	8-719-911-19	DIODE 1SS119-25	
		< FERRITE BEAD >	
FB1	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB2	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB3	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB4	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB5	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB6	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB7	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB8	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
FB9	1-410-396-41	FERRITE BEAD INDUCTOR	0.45μH
		< IC >	
IC1	8-759-103-93	IC μPC393C	
IC2	8-759-040-01	IC MC14001BCP	
IC3	8-759-503-91	IC TL082ACP	
IC4	8-759-140-11	IC UPD4011BC	
IC5	8-759-103-93	IC μPC393C	
IC7	8-759-103-93	IC μPC393C	
IC8	8-759-929-65	IC LM7912CT	
IC9	8-759-240-40	IC TC4040BP	
IC10	8-759-503-91	IC TL082ACP	
IC11	8-759-231-58	IC TA7812S	
IC12	8-759-045-72	IC MC14572UBCP	
IC13	8-759-908-15	IC TL431CLP	
IC14	8-759-145-58	IC μPC4558C	
IC15	8-759-100-75	IC μPC1394C	
IC16	8-759-145-58	IC μPC4558C	
IC18	8-759-145-58	IC μPC4558C	
		< COIL >	
L1	1-459-155-00	COIL (WITH CORE)	45μH
L2	1-412-521-31	INDUCTOR	4.7μH
L3	1-412-521-31	INDUCTOR	4.7μH
L4	1-459-155-00	COIL (WITH CORE)	45μH
L5	1-459-155-00	COIL (WITH CORE)	45μH
L6 ⚠	1-409-543-12	COIL, CHOKE	420μH
L7 ⚠	1-409-543-12	COIL, CHOKE	420μH
L8	1-459-483-00	COIL (WITH CORE)	
L9	1-410-686-11	INDUCTOR	1mH
L10	1-411-566-11	COIL, CHOKE	1mH
L11	1-459-614-11	COIL, CHOKE	90μH
L12	1-459-614-11	COIL, CHOKE	90μH
		< TRANSISTOR >	
Q1	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q2	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q3	8-729-119-78	TRANSISTOR 2SC2785-HFE	

PA

REF NO.	PART NO.	DESCRIPTION				REMARK
Q4	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q5	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q6	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q7	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q11	8-729-030-03	TRANSISTOR	DTC144ESA-TP			
Q12	8-729-140-96	TRANSISTOR	2SD774-34			
Q13	8-729-140-97	TRANSISTOR	2SB734-34			
Q14	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q15	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q16	8-729-802-71	TRANSISTOR	2SA1407-D			
Q17	8-729-821-87	TRANSISTOR	2SD1878-CA			
Q18	8-729-030-03	TRANSISTOR	DTC144ESA-TP			
Q19	8-729-119-80	TRANSISTOR	2SC2688-LK			
Q20	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q21	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q22	8-729-033-57	TRANSISTOR	IRFP350LF20			
Q23	8-729-207-89	TRANSISTOR	2SA1358-Y			
Q24	8-729-119-80	TRANSISTOR	2SC2688-LK			
Q25	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q26	8-729-140-96	TRANSISTOR	2SD774-34			
Q27	8-729-820-71	TRANSISTOR	2SC3998CA			
Q28	8-729-024-38	TRANSISTOR	IRFIP250			
Q29	8-729-143-42	TRANSISTOR	2SK929			
Q30	8-729-140-97	TRANSISTOR	2SB734-34			
Q31	8-729-105-74	TRANSISTOR	2SK523-M1			
Q32	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q33	8-729-031-68	TRANSISTOR	2SC4630LS			
Q34	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q35	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q36	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q37	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q38	8-729-030-03	TRANSISTOR	DTC144ESA-TP			
Q39	8-729-801-88	TRANSISTOR	2SA1381-E			
Q40	8-729-031-68	TRANSISTOR	2SC4630LS			
Q41	8-729-031-68	TRANSISTOR	2SC4630LS			
Q42	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q43	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q44	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q100	8-729-029-56	TRANSISTOR	DTA144ESA			
		< RESISTOR >				
R1	1-215-473-00	METAL	150K	1%	1/4W	
R2	1-249-440-11	CARBON	82K	5%	1/4W	
R3	1-249-417-11	CARBON	1K	5%	1/4W	
R4	1-247-843-11	CARBON	3.3K	5%	1/4W	
R5	1-247-863-91	CARBON	22K	5%	1/4W	
R6	1-249-441-11	CARBON	100K	5%	1/4W	
R7	1-215-463-00	METAL	56K	1%	1/4W	
R8	1-249-417-11	CARBON	1K	5%	1/4W	
R9	1-247-807-31	CARBON	100	5%	1/4W	
R10	1-249-429-11	CARBON	10K	5%	1/4W	
R11	1-249-436-11	CARBON	39K	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-429-11	CARBON	10K	5%	1/4W	
R14	1-215-457-00	METAL	33K	1%	1/4W	
R15	1-249-417-11	CARBON	1K	5%	1/4W	
R16	1-247-843-11	CARBON	3.3K	5%	1/4W	
R17	1-215-469-00	METAL	100K	1%	1/4W	
R18	1-215-475-00	METAL	180K	1%	1/4W	
R19	1-215-469-00	METAL	100K	1%	1/4W	
R20	1-249-429-11	CARBON	10K	5%	1/4W	
R21	1-249-425-11	CARBON	4.7K	5%	1/4W	
R22	1-249-439-11	CARBON	68K	5%	1/4W	
R23	1-247-843-11	CARBON	3.3K	5%	1/4W	
R24	1-249-417-11	CARBON	1K	5%	1/4W	
R25	1-249-431-11	CARBON	15K	5%	1/4W	
R26	1-249-417-11	CARBON	1K	5%	1/4W	
R27	1-249-429-11	CARBON	10K	5%	1/4W	
R28	1-249-429-11	CARBON	10K	5%	1/4W	
R29	1-247-807-31	CARBON	100	5%	1/4W	
R30	1-249-441-11	CARBON	100K	5%	1/4W	
R31	1-249-417-11	CARBON	1K	5%	1/4W	
R32	1-249-436-11	CARBON	39K	5%	1/4W	
R33	1-249-436-11	CARBON	39K	5%	1/4W	
R34	1-249-436-11	CARBON	39K	5%	1/4W	
R35	1-249-429-11	CARBON	10K	5%	1/4W	
R36	1-247-843-11	CARBON	3.3K	5%	1/4W	
R37	1-215-863-11	METAL OXIDE	100	5%	1W	F
R38	1-215-432-00	METAL	3K	1%	1/4W	
R39	1-215-432-00	METAL	3K	1%	1/4W	
R40	1-215-432-00	METAL	3K	1%	1/4W	
R41	1-249-437-11	CARBON	47K	5%	1/4W	
R42	1-247-863-91	CARBON	22K	5%	1/4W	
R43	1-247-807-31	CARBON	100	5%	1/4W	
R44	1-249-417-11	CARBON	1K	5%	1/4W	
R45	1-247-895-91	CARBON	470K	5%	1/4W	
R46	1-247-807-31	CARBON	100	5%	1/4W	
R47	1-247-807-31	CARBON	100	5%	1/4W	
R48	1-215-432-00	METAL	3K	1%	1/4W	
R49	1-215-432-00	METAL	3K	1%	1/4W	
R50	1-215-432-00	METAL	3K	1%	1/4W	
R51	1-215-863-11	METAL OXIDE	100	5%	1W	F
R52	1-249-401-11	CARBON	47	5%	1/4W	F
R53	1-249-439-11	CARBON	68K	5%	1/4W	
R54	1-247-903-00	CARBON	1M	5%	1/4W	
R55	1-249-417-11	CARBON	1K	5%	1/4W	
R56	1-249-417-11	CARBON	1K	5%	1/4W	
R57	1-249-429-11	CARBON	10K	5%	1/4W	
R58	1-249-411-11	CARBON	330	5%	1/4W	
R59	1-249-429-11	CARBON	10K	5%	1/4W	
R60	1-249-429-11	CARBON	10K	5%	1/4W	
R61	1-249-431-11	CARBON	15K	5%	1/4W	
R62	1-215-905-11	METAL OXIDE	10	5%	3W	F
R63	1-215-905-11	METAL OXIDE	10	5%	3W	F
R64	1-215-905-11	METAL OXIDE	10	5%	3W	F
R65	1-247-807-31	CARBON	100	5%	1/4W	
R66	1-247-903-00	CARBON	1M	5%	1/4W	
R67	1-249-425-11	CARBON	4.7K	5%	1/4W	
R68	1-249-417-11	CARBON	1K	5%	1/4W	
R69	1-215-447-00	METAL	12K	1%	1/4W	
R70	1-215-456-00	METAL	30K	1%	1/4W	
R71	1-249-417-11	CARBON	1K	5%	1/4W	
R72	1-247-807-31	CARBON	100	5%	1/4W	
R74	1-249-417-11	CARBON	1K	5%	1/4W	
R75	1-249-429-11	CARBON	10K	5%	1/4W	
R76	1-215-455-00	METAL	27K	1%	1/4W	
R77	1-215-447-00	METAL	12K	1%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R78	1-215-445-00	METAL	10K	1%	1/4W	
R79	1-247-843-11	CARBON	3.3K	5%	1/4W	
R80	1-260-300-11	CARBON	4.7	5%	1/2W	
R81	1-260-300-11	CARBON	4.7	5%	1/2W	
R82	1-260-294-11	CARBON	1.5	5%	1/2W	
R83	1-260-300-11	CARBON	4.7	5%	1/2W	
R84	1-247-807-31	CARBON	100	5%	1/4W	
R85	1-249-417-11	CARBON	1K	5%	1/4W	F
R86	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R87	1-249-429-11	CARBON	10K	5%	1/4W	
R88	1-216-353-00	METAL OXIDE	2.2	5%	1W	F
R89	1-247-843-11	CARBON	3.3K	5%	1/4W	
R90	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R91	1-249-441-11	CARBON	100K	5%	1/4W	
R92	1-249-417-11	CARBON	1K	5%	1/4W	
R93	1-249-421-11	CARBON	2.2K	5%	1/4W	
R94	1-215-457-00	METAL	33K	1%	1/4W	
R95	1-249-417-11	CARBON	1K	5%	1/4W	F
R96	1-215-421-00	METAL	1K	1%	1/4W	
R97	1-215-453-00	METAL	22K	1%	1/4W	
R98	1-215-421-00	METAL	1K	1%	1/4W	
R99	1-249-417-11	CARBON	1K	5%	1/4W	
R100	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R101	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R102	1-247-807-31	CARBON	100	5%	1/4W	
R103	1-247-807-31	CARBON	100	5%	1/4W	
R104	1-249-413-11	CARBON	470	5%	1/4W	
R105	1-249-417-11	CARBON	1K	5%	1/4W	
R106	1-215-922-11	METAL OXIDE	6.8K	5%	3W	F
R107	1-249-431-11	CARBON	15K	5%	1/4W	
R108	1-202-843-11	SOLID	270K	20%	1/2W	
R109	1-202-843-11	SOLID	270K	20%	1/2W	
R110	1-202-843-11	SOLID	270K	20%	1/2W	
R111	1-249-441-11	CARBON	100K	5%	1/4W	
R112	1-215-421-00	METAL	1K	1%	1/4W	
R113	1-249-425-11	CARBON	4.7K	5%	1/4W	
R114	1-249-399-11	CARBON	33	5%	1/4W	
R115	1-202-843-11	SOLID	270K	20%	1/2W	
R116	1-202-843-11	SOLID	270K	20%	1/2W	
R117	1-202-843-11	SOLID	270K	20%	1/2W	
R118	1-215-445-00	METAL	10K	1%	1/4W	
R119	1-249-424-11	CARBON	3.9K	5%	1/4W	F
R120	1-247-895-91	CARBON	470K	5%	1/4W	
R121	1-249-437-11	CARBON	47K	5%	1/4W	
R122	1-249-421-11	CARBON	2.2K	5%	1/4W	
R123	1-215-866-11	METAL OXIDE	330	5%	1W	F
R124	1-249-425-11	CARBON	4.7K	5%	1/4W	
R125	1-202-843-11	SOLID	270K	20%	1/2W	
R126	1-202-843-11	SOLID	270K	20%	1/2W	
R127	1-202-843-11	SOLID	270K	20%	1/2W	
R128	1-249-431-11	CARBON	15K	5%	1/4W	
R129	1-215-445-00	METAL	10K	1%	1/4W	
R130	1-249-420-11	CARBON	1.8K	5%	1/4W	
R131	1-215-905-11	METAL OXIDE	10	5%	3W	F
R132	1-249-429-11	CARBON	10K	5%	1/4W	F
R133	1-247-807-31	CARBON	100	5%	1/4W	
R134	1-249-429-11	CARBON	10K	5%	1/4W	
R135	1-247-807-31	CARBON	100	5%	1/4W	
R136	1-215-895-11	METAL OXIDE	3.3K	5%	2W	F

REF NO.	PART NO.	DESCRIPTION				REMARK
R137	1-215-895-11	METAL OXIDE	3.3K	5%	2W	F
R138	1-215-895-11	METAL OXIDE	3.3K	5%	2W	F
R139	1-215-870-11	METAL OXIDE	1.5K	5%	1W	F
R140	1-249-425-11	CARBON	4.7K	5%	1/4W	
R141	1-249-429-11	CARBON	10K	5%	1/4W	
R142	1-249-429-11	CARBON	10K	5%	1/4W	
R143	1-249-429-11	CARBON	10K	5%	1/4W	
R144	1-249-429-11	CARBON	10K	5%	1/4W	
R145	1-249-441-11	CARBON	100K	5%	1/4W	
R146	1-249-427-11	CARBON	6.8K	5%	1/4W	
R147	1-247-807-31	CARBON	100	5%	1/4W	
R148	1-249-425-11	CARBON	4.7K	5%	1/4W	
R149	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R150	1-247-807-31	CARBON	100	5%	1/4W	
R151	1-249-441-11	CARBON	100K	5%	1/4W	
R152	1-249-429-11	CARBON	10K	5%	1/4W	
R153	1-202-549-00	SOLID	100	20%	1/2W	
R154	1-249-432-11	CARBON	18K	5%	1/4W	
R156	1-202-838-00	SOLID	100K	20%	1/2W	
R157	1-215-457-00	METAL	33K	1%	1/4W	
R158	1-249-437-11	CARBON	47K	5%	1/4W	
R159	1-249-429-11	CARBON	10K	5%	1/4W	
R160	1-249-429-11	CARBON	10K	5%	1/4W	
R161	1-249-429-11	CARBON	10K	5%	1/4W	
R162	1-202-549-00	SOLID	100	20%	1/2W	
R163	1-249-432-11	CARBON	18K	5%	1/4W	
R164	1-202-838-00	SOLID	100K	20%	1/2W	
R165	1-249-437-11	CARBON	47K	5%	1/4W	
R166	1-249-429-11	CARBON	10K	5%	1/4W	
R167	1-202-549-00	SOLID	100	20%	1/2W	
R168	1-249-429-11	CARBON	10K	5%	1/4W	
R169	1-249-432-11	CARBON	18K	5%	1/4W	
R170	1-202-838-00	SOLID	100K	20%	1/2W	
R171	1-249-437-11	CARBON	47K	5%	1/4W	
R172	1-249-429-11	CARBON	10K	5%	1/4W	
R173	1-215-461-00	METAL	47K	1%	1/4W	
R174						
	1-249-441-11	CARBON	100K	5%	1/4W	
R175	1-249-441-11	CARBON	100K	5%	1/4W	
R176	1-249-441-11	CARBON	100K	5%	1/4W	
R177	1-249-429-11	CARBON	10K	5%	1/4W	F
R178	1-249-437-11	CARBON	47K	5%	1/4W	
R179	1-249-429-11	CARBON	10K	5%	1/4W	
R180	1-249-425-11	CARBON	4.7K	5%	1/4W	
R181	1-249-431-11	CARBON	15K	5%	1/4W	
R182	1-247-895-91	CARBON	470K	5%	1/4W	
R183	1-247-895-91	CARBON	470K	5%	1/4W	
R184	1-247-895-91	CARBON	470K	5%	1/4W	
R185	1-249-429-11	CARBON	10K	5%	1/4W	
R186	1-249-429-11	CARBON	10K	5%	1/4W	
R187	1-249-429-11	CARBON	10K	5%	1/4W	
R188	1-215-475-00	METAL	180K	1%	1/4W	
R189	1-247-863-91	CARBON	22K	5%	1/4W	
R190	1-247-863-91	CARBON	22K	5%	1/4W	
R191	1-247-843-11	CARBON	3.3K	5%	1/4W	
R192	1-249-429-11	CARBON	10K	5%	1/4W	
R193	1-249-429-11	CARBON	10K	5%	1/4W	
R194	1-215-455-00	METAL	27K	1%	1/4W	
R195	1-249-437-11	CARBON	47K	5%	1/4W	
R196	1-247-843-11	CARBON	3.3K	5%	1/4W	

PA **PB** **QM** **YA**

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.	PART NO.	DESCRIPTION			REMARK
R197	1-249-437-11	CARBON	47K	5%	1/4W
R198	1-247-843-11	CARBON	3.3K	5%	1/4W
R199	1-249-437-11	CARBON	47K	5%	1/4W
R200	1-247-843-11	CARBON	3.3K	5%	1/4W
R201	1-249-417-11	CARBON	1K	5%	1/4W
R202	1-249-413-11	CARBON	470	5%	1/4W
R1001	1-249-429-11	CARBON	10K	5%	1/4W
R1002	1-247-871-11	CARBON	47K	5%	1/4W
R1003	1-247-871-11	CARBON	47K	5%	1/4W
		< VARIABLE RESISTOR >			
⊠ RV1 ⚠	1-238-789-11	RES, ADJ, CERMET 50K			
⊠ RV2 ⚠	1-238-788-11	RES, ADJ, CERMET 20K			
		< TRANSFORMER >			
T1	1-429-275-11	TRANSFORMER, FERRITE (LOT)			
T2	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE			
T3	1-437-144-11	TRANSFORMER, FERRITE (HDT)			
T4	1-424-290-11	TRANSFORMER, DRIVE			
		TEST PIN >			
TP3	1-537-864-11	PIN, POST			
TP5	1-537-864-11	PIN, POST			
TP6	1-537-864-11	PIN, POST			
TP7	1-537-864-11	PIN, POST			
TP8	1-537-864-11	PIN, POST			
TP9	1-537-864-11	PIN, POST			
TP10	1-537-864-11	PIN, POST			
TP13	1-537-864-11	PIN, POST			
TP14	1-537-864-11	PIN, POST			
		< CRYSTAL >			
X1	1-578-768-11	VIBLATOR, CERAMIC (495kHz)			

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REF NO.	PART NO.	DESCRIPTION
	* A-1190-260-A	PB MOUNTED PC BOARD *****************
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)
		< CONNECTOR >
CN241	* 1-564-506-11	PLUG, CONNECTOR 3P
		< TRANSFORMER >
FBT10 ⚠	X-4034-325-1	TRANSFORMER ASSY, FLYBACK (NX3031//J1W)
FBT11 ⚠	X-4034-326-1	TRANSFORMER ASSY, FLYBACK (NX3031//J1X)
		< NEON LAMP >
NL10	1-519-108-XX	LAMP, NEON
NL11	1-519-108-XX	LAMP, NEON

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REF NO.	PART NO.	DESCRIPTION
	* A-1270-375-A	QM MOUNTED PC BOARD ******************

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- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order ot satisfy regulations regarding X-rey rediation. Should replacement be required, replace only with the value originally used.

REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1394-815-A	YA COMPLETE PC BOARD (Include YO Mounted PC Board) ******************			
	* 1-526-660-21	SOCKET, IC (DP) 32P			
		< CAPACITOR >			
C100	1-126-960-11	ELECT	1MF	20%	50V
C101	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C102	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C103	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C104	1-126-935-11	ELECT	470MF	20%	16V
C105	1-126-933-11	ELECT	100MF	20%	16V
C106	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C107	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C108	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C109	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C110	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C111	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C112	1-126-933-11	ELECT	100MF	20%	16V
C113	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C114	1-126-933-11	ELECT	100MF	20%	16V
C115	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C116	1-126-967-11	ELECT	47MF	20%	16V
C117	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C118	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C119	1-126-967-11	ELECT	47MF	20%	16V
C120	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C121	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C122	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C123	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C124	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C125	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C126	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C127	1-126-967-11	ELECT	47MF	20%	16V
C128	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C129	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C130	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C131	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C132	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C133	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C134	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C135	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C136	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C137	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C138	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C139	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C140	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C141	1-126-960-11	ELECT	1MF	20%	50V
C142	1-126-960-11	ELECT	1MF	20%	50V
C143	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C147	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C150	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C151	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C152	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C153	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C154	1-126-967-11	ELECT	47MF	20%	16V
C155	1-126-935-11	ELECT	470MF	20%	16V
C156	1-163-031-11	CERAMIC CHIP	0.01MF		50V

REF NO.	PART NO.	DESCRIPTION				REMARK
C157	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C158	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C159	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C160	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C161	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C162	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C163	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C164	1-126-967-11	ELECT	47MF	20%	16V	
C165	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C166	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C167	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C168	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C169	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C170	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C171	1-126-967-11	ELECT	47MF	20%	16V	
C172	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C173	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C174	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C175	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C176	1-126-967-11	ELECT	47MF	20%	16V	
C177	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C178	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C179	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C180	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C181	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
		< DIODE >				
D101	8-719-104-34	DIODE 1S2836				
D102	8-719-104-34	DIODE 1S2836				
D103	8-719-109-54	DIODE RD2.2ESB2				
D104	8-719-109-93	DIODE RD6.2ESB2				
D105	8-719-109-54	DIODE RD2.2ESB2				
		< FILTER >				
FL104	1-239-899-21	FILTER, CHIP EMI				
FL105	1-239-899-21	FILTER, CHIP EMI				
		< IC >				
IC100	8-759-162-80	IC MM1170BFB				
IC101	8-759-421-40	IC MB90091APF-114				
IC102	8-759-461-43	IC HD6433257A44F				
IC105	8-759-144-82	IC µPC2405HF				
IC106	8-759-430-28	IC HM6264BLFP-10LTZ				
IC108	8-759-445-10	IC CY7C136-55JC-TEL				
IC109	8-759-430-23	IC UPD65806GD-064-LML				
IC110	8-759-097-52	IC SN75123NS				
IC111	8-759-097-52	IC SN75123NS				
IC112	8-759-394-03	IC ICS1522MT				
IC113	8-759-430-33	IC MC10H640FNR2				
IC114	8-759-994-67	IC MB86022PF				
IC115	8-759-387-78	IC TC551664AJ-20				
IC116	8-759-387-78	IC TC551664AJ-20				
IC117	8-759-185-78	IC TC74VHC132F(EL)				
IC118	8-759-240-41	IC TC74HC107AP				
IC120	8-759-186-30	IC TC74VHC14F				
IC121	8-759-186-54	IC TC74VHC164F				
IC122	8-759-185-82	IC TC74VHC153F(EL)				
IC123	8-759-186-38	IC TC74VHC32F				

REF NO.	PART NO.	DESCRIPTION				REMARK
IC124	8-759-186-39	IC TC74VHC74F				
IC125	8-759-186-43	IC TC74VHC123AF				
IC126	8-759-186-30	IC TC74VHC14F				
IC127	8-759-185-82	IC TC74VHC153F(EL)				
IC128	8-759-081-48	IC TC74VHC08F				
IC129	8-759-186-29	IC TC74VHC11F				
IC130	8-759-008-40	IC MC74HC4078F				
IC131	8-759-242-68	IC TC7W32F				
IC132	8-759-242-68	IC TC7W32F				
IC133	8-759-242-68	IC TC7W32F				
IC134	8-759-031-84	IC SC7S04F				
IC135	8-759-448-25	IC EPM7032QC44-12-IRE				
IC136	8-759-242-76	IC TC7W08F				
IC137	8-759-242-74	IC TC7W04F				
		< JACK >				
J103	1-507-562-00	JACK				
		< COIL >				
L101	1-412-390-21	INDUCTOR CHIP	0µH			
L102	1-412-390-21	INDUCTOR CHIP	0µH			
L103	1-412-533-21	INDUCTOR	47µH			
L104	1-412-533-21	INDUCTOR	47µH			
L105	1-412-390-21	INDUCTOR CHIP	0µH			
L106	1-412-390-21	INDUCTOR CHIP	0µH			
L107	1-412-390-21	INDUCTOR CHIP	0µH			
		< RESISTOR >				
R101	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R102	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R103	1-216-295-91	CONDUCTOR, CHIP (2012)				
R104	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R105	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R106	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R107	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R108	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R109	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R110	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R111	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R112						
	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R113	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R116	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R117	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R118	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R119	1-216-295-91	CONDUCTOR, CHIP (2012)				
R121	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R122	1-216-295-91	CONDUCTOR, CHIP (2012)				
R123	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R125	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R126	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R127	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R128	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R129	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R130	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R131	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R132	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R133	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R134	1-216-025-91	METAL GLAZE	100	5%	1/10W	

YA

REF NO.	PART NO.	DESCRIPTION	REMARK
R135	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R136	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R137	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R138	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R139	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R140	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R141	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R142	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R143	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R144	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R145	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R146	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R147	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R148	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R149	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R150	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R151	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R152	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R153	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R154	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R155	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R156	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R157	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R158	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R159	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R160	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R161	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R162	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R163	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R164	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R165	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R166	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R167	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R168	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R169	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R170	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R171	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R173	1-216-295-91	CONDUCTOR, CHIP (2012)	
R174	1-249-401-11	CARBON 47 5% 1/4W	
R175	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R176	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R177	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R178	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R179	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R180	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R181	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R182	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R183	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R184	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R185	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R186	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R187	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R188	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R189	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R190	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R191	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R192	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R193	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R194	1-216-073-00	METAL GLAZE 10K 5% 1/10W	

REF NO.	PART NO.	DESCRIPTION	REMARK
R195	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R196	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R197	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R198	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R199	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R200	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R201	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R202	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R203	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R204	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R205	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R206	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R207	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R208	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R209	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R210	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R211	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R212	1-216-295-91	CONDUCTOR, CHIP (2012)	
R213	1-216-295-91	CONDUCTOR, CHIP (2012)	
R214	1-216-295-91	CONDUCTOR, CHIP (2012)	
R215	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R216	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R217	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R218	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R219	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R220	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R221	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R222	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R223	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R224	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R225	1-216-295-91	CONDUCTOR, CHIP (2012)	
R226	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R227	1-216-295-91	CONDUCTOR, CHIP (2012)	
R228	1-216-295-91	CONDUCTOR, CHIP (2012)	
R229	1-216-295-91	CONDUCTOR, CHIP (2012)	
R230	1-216-295-91	CONDUCTOR, CHIP (2012)	
R231	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R232	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R233	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R234	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R235	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R236	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R237	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R238	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
R239	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R240	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R241	1-216-295-91	CONDUCTOR, CHIP (2012)	
R242	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R243	1-216-295-91	CONDUCTOR, CHIP (2012)	
R244	1-216-295-91	CONDUCTOR, CHIP (2012)	
R245	1-216-295-91	CONDUCTOR, CHIP (2012)	
R246	1-216-295-91	CONDUCTOR, CHIP (2012)	
R247	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R248	1-216-644-11	METAL CHIP 510 0.5% 1/10W	
R249	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R250	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R251	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R252	1-216-023-00	METAL GLAZE 82 5% 1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R253	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R254	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R256	1-216-295-91	CONDUCTOR, CHIP (2012)				
R258	1-216-295-91	CONDUCTOR, CHIP (2012)				
R259	1-216-295-91	CONDUCTOR, CHIP (2012)				
R260	1-216-295-91	CONDUCTOR, CHIP (2012)				
R261	1-216-295-91	CONDUCTOR, CHIP (2012)				
R264	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R265	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R266	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R267	1-216-295-91	CONDUCTOR, CHIP (2012)				
R268	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R269	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R270	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R272	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R273	1-216-295-91	CONDUCTOR, CHIP (2012)				
R275	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R276	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R280	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R281	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R282	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R283	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R284	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R285	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R286	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R288	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R289	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R290	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R291	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R292	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R293	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R294	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R295	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R296	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R303	1-216-295-91	CONDUCTOR, CHIP (2012)				
R304	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R305	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R306	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R307	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R310	1-216-295-91	CONDUCTOR, CHIP (2012)				
R311	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R313	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R314	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R315	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R316	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R317	1-216-295-91	CONDUCTOR, CHIP (2012)				
R319	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R325	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R326	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R327	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R328	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R329	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R330	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R331	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R332	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R333	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R334	1-216-025-91	METAL GLAZE	100	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R335	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R336	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R337	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R338	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R339	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R340	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R341	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R342	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R343	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R344	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R345	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R346	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R347	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R348	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R349	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R358	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R359	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R360	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R361	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R362	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R364	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R365	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
		< TERMINAL BOARD >				
TB101	* 1-694-207-11	TERMINAL BOARD ASSY, I/O				
		< TEST PIN >				
TP100	* 1-535-877-22	CHIP, CHECKER				
TP101	* 1-535-877-22	CHIP, CHECKER				
TP102	* 1-535-877-22	CHIP, CHECKER				
TP103	* 1-535-877-22	CHIP, CHECKER				
TP104	* 1-535-877-22	CHIP, CHECKER				
TP105	* 1-535-877-22	CHIP, CHECKER				
TP106	* 1-535-877-22	CHIP, CHECKER				
TP107	* 1-535-877-22	CHIP, CHECKER				
TP108	* 1-535-877-22	CHIP, CHECKER				
TP109	* 1-535-877-22	CHIP, CHECKER				
TP110	* 1-535-877-22	CHIP, CHECKER				
TP111	* 1-535-877-22	CHIP, CHECKER				
TP112	* 1-535-877-22	CHIP, CHECKER				
TP113	* 1-535-877-22	CHIP, CHECKER				
TP114	* 1-535-877-22	CHIP, CHECKER				
TP115	* 1-535-877-22	CHIP, CHECKER				
TP116	* 1-535-877-22	CHIP, CHECKER				
TP117	* 1-535-877-22	CHIP, CHECKER				
TP118	* 1-535-877-22	CHIP, CHECKER				
TP119	* 1-535-877-22	CHIP, CHECKER				
TP120	* 1-535-877-22	CHIP, CHECKER				
TP121	* 1-535-877-22	CHIP, CHECKER				
TP122	* 1-535-877-22	CHIP, CHECKER				
TP123	* 1-535-877-22	CHIP, CHECKER				
TP124	* 1-535-877-22	CHIP, CHECKER				
TP125	* 1-535-877-22	CHIP, CHECKER				
TP126	* 1-535-877-22	CHIP, CHECKER				
TP127	* 1-535-877-22	CHIP, CHECKER				
TP128	* 1-535-877-22	CHIP, CHECKER				
TP129	* 1-535-877-22	CHIP, CHECKER				
TP130	* 1-535-877-22	CHIP, CHECKER				
TP131	* 1-535-877-22	CHIP, CHECKER				

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REF NO.	PART NO.	DESCRIPTION				REMARK
TP132	* 1-535-877-22	CHIP, CHECKER				
TP133	* 1-535-877-22	CHIP, CHECKER				
TP134	* 1-535-877-22	CHIP, CHECKER				
TP135	* 1-535-877-22	CHIP, CHECKER				
TP136	* 1-535-877-22	CHIP, CHECKER				
TP137	* 1-535-877-22	CHIP, CHECKER				
TP138	* 1-535-877-22	CHIP, CHECKER				
TP139	* 1-535-877-22	CHIP, CHECKER				
TP140	* 1-535-877-22	CHIP, CHECKER				
TP141	* 1-535-877-22	CHIP, CHECKER				
TP142	* 1-535-877-22	CHIP, CHECKER				
TP143	* 1-535-877-22	CHIP, CHECKER				
TP144	* 1-535-877-22	CHIP, CHECKER				
TP145	* 1-535-877-22	CHIP, CHECKER				
TP146	* 1-535-877-22	CHIP, CHECKER				
TP147	* 1-535-877-22	CHIP, CHECKER				
TP148	* 1-535-877-22	CHIP, CHECKER				
TP149	* 1-535-877-22	CHIP, CHECKER				
TP150	* 1-535-877-22	CHIP, CHECKER				
TP152	* 1-535-877-22	CHIP, CHECKER				
TP153	* 1-535-877-22	CHIP, CHECKER				
		< CRYSTAL >				
X101	1-760-040-11	VIBRATOR, CRYSTAL				

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1394-816-A	YB COMPLETE PC BOARD ******************				
	* 1-526-659-00	SOCKET, IC (DP) 28P				
	* 1-526-660-21	SOCKET, IC (DP) 32P				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S				
		< CAPACITOR >				
C100	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C101	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C102	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C104	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C105	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C106	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C107	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C108	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C109	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C110	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C111	1-124-589-11	ELECT	47MF	20%	16V	
C112	1-124-589-11	ELECT	47MF	20%	16V	
C113	1-124-584-00	ELECT	100MF	20%	10V	
C114	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C115	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C116	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C117	1-126-157-11	ELECT	10MF	20%	16V	
C118	1-126-157-11	ELECT	10MF	20%	16V	
C119	1-126-160-11	ELECT	1MF	20%	50V	
C120	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C121	1-124-589-11	ELECT	47MF	20%	16V	
C122	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C123	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

REF NO.	PART NO.	DESCRIPTION				REMARK
C124	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C125	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C126	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C127	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C128	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C129	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C130	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C131	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C132	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C133	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C134	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C135	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C136	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C137	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C138	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C139	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C140	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C141	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C142	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C143	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C144	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C145	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C146	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C147	1-136-165-00	FILM	0.1MF	5%	50V	
C148	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C149	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C150	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C151	1-124-584-00	ELECT	100MF	20%	10V	
C152	1-124-584-00	ELECT	100MF	20%	10V	
C153	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C154	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C155	1-126-157-11	ELECT	10MF	20%	16V	
C156	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C157	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C158	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C159	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C160	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C161	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C200	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C201	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C202	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C203	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C204	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C206	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C207	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C209	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C300	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C301	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C302	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C303	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C304	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C305	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C306	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C307	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C308	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C309	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C310	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C311	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

REF NO.	PART NO.	DESCRIPTION				REMARK
C312	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C313	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C314	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C315	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C316	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C317	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C318	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C319	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C320	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C321	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C322	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C323	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C324	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C325	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C326	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C327	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C328	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C329	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C330	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C331	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C332	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C333	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C334	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C335	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C336	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C337	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C338	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C339	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C340	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C341	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C342	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C343	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C344	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C345	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C400	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C401	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C403	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C404	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C405	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C406	1-126-157-11	ELECT	10MF	20%	16V	
C407	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C408	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C409	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C410	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C411	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
		< CONNECTOR >				
CN454	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN455	* 1-564-516-11	PLUG, CONNECTOR 13P				
		< DIODE >				
D100	8-719-801-78	DIODE 1SS184				
D101	8-719-801-78	DIODE 1SS184				
D102	8-719-801-78	DIODE 1SS184				
D103	8-719-510-02	DIODE D1NS4				
D104	8-719-106-17	DIODE RD6.8M-B2				
D105	8-719-801-78	DIODE 1SS184				
D106	8-719-801-78	DIODE 1SS184				

REF NO.	PART NO.	DESCRIPTION	REMARK
D107	8-719-801-78	DIODE 1SS184	
D108	8-719-974-51	DIODE SB20-03P	
D109	8-719-801-78	DIODE 1SS184	
D110	8-719-801-78	DIODE 1SS184	
D111	8-719-801-78	DIODE 1SS184	
D112	8-719-801-78	DIODE 1SS184	
D113	8-719-801-78	DIODE 1SS184	
D114	8-719-801-78	DIODE 1SS184	
D115	8-719-801-78	DIODE 1SS184	
D116	8-719-801-78	DIODE 1SS184	
D117	8-719-801-78	DIODE 1SS184	
D118	8-719-801-78	DIODE 1SS184	
D119	8-719-801-78	DIODE 1SS184	
D120	8-719-801-78	DIODE 1SS184	
D121	8-719-801-78	DIODE 1SS184	
D122	8-719-404-49	DIODE MA111	
D123	8-719-404-49	DIODE MA111	
D200	8-719-109-93	DIODE RD6.2ESB2	
D201	8-719-109-93	DIODE RD6.2ESB2	
D202	8-719-109-93	DIODE RD6.2ESB2	
D203	8-719-106-17	DIODE RD6.8M-B2	
D301	8-719-801-78	DIODE 1SS184	
D400	8-719-106-08	DIODE RD6.2M-B2	
D401	8-719-106-08	DIODE RD6.2M-B2	
D402	8-719-105-82	DIODE RD5.1M-B2	
D403	8-719-105-82	DIODE RD5.1M-B2	
D404	8-719-105-82	DIODE RD5.1M-B2	
		< FILTER >	
FL102	1-239-899-21	FILTER, CHIP EMI	
FL103	1-239-899-21	FILTER, CHIP EMI	
		< IC >	
IC100	8-759-421-41	IC HD6433337WA08F	
IC101	8-759-162-80	IC MM1170BFB	
IC102	8-759-460-36	IC PC74HCT08D-T	
IC103	8-759-269-12	IC SN74HCT08ANS	
IC104	8-759-100-93	IC µPC393G2	
IC105	8-759-360-79	IC TC7W14F	
IC107	8-759-430-28	IC HM6264BLFP-10LTZ	
IC108	8-759-430-34	IC MAX762CSA-TE2	
IC109	8-752-383-22	IC CXD108-146Q	
IC110	8-759-259-77	IC PQ20VZ5U	
IC111	8-759-237-71	IC TC74HC573AF(EL)	
IC113	8-759-979-68	IC LM2931Z-5.0	
IC114	8-759-100-93	IC µPC393G2	
IC115	8-759-233-02	IC TC74HC273AF	
IC116	8-759-461-11	IC UPD17215GT-723	
IC200	8-759-184-64	IC TC4W66FU	
IC201	8-759-443-08	IC TC7W241FU-TE12R	
IC300	8-759-235-31	IC TC74HC14AF(EL)	
IC301	8-759-925-85	IC SN74HC32ANS	
IC302	8-759-435-39	IC HN58C1001P-15	
IC303	8-759-925-90	IC SN74HC74ANS	
IC305	8-759-445-10	IC CY7C136-55JC-TEL	
IC306	8-759-035-93	IC SC7S32F	
IC307	8-759-035-93	IC SC7S32F	
IC308	8-759-446-72	IC M48Z128Y-120PM1	

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REF NO.	PART NO.	DESCRIPTION				REMARK
IC309	8-759-430-28	IC HM6264BLFP-10LTZ				
IC310	8-759-926-12	IC SN74HC139ANS				
IC311	8-752-383-22	IC CXD108-146Q				
IC312	8-759-443-08	IC TC7W241FU-TE12R				
IC313	8-759-421-41	IC HD6433337WA08F				
IC314	8-759-984-58	IC MB671469PF				
IC315	8-759-984-59	IC MB654842UPF				
IC316	8-759-162-80	IC MM1170BFB				
IC317	8-752-072-94	IC CXA1875AM-T4				
IC318	8-759-239-55	IC TC74HC123AF				
IC319	8-759-926-18	IC SN74HC157ANS				
IC320	8-759-239-55	IC TC74HC123AF				
IC321	8-759-242-76	IC TC7W08F				
IC322	8-759-062-66	IC TC7S66F				
IC400	8-759-011-65	IC MC74HC4053F				
		< COIL >				
L100	1-412-533-21	INDUCTOR	47μH			
L101	1-412-533-21	INDUCTOR	47μH			
L102	1-412-533-21	INDUCTOR	47μH			
		< TRANSISTOR >				
Q100	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q101	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q102	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q103	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q104	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q105	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q202	8-729-216-22	TRANSISTOR 2SA1162-G				
Q300	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q301	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q400	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
		< RESISTOR >				
R101	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R103	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R104	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R105	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R107	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R108	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R109	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R110	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R111	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R112	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R113	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R114	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R115	1-216-295-91	CONDUCTOR, CHIP (2012)				
R117	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R118	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R119	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R120	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R121	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R122	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R123	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R124	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R125	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R126	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R127	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R128	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R129	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R130	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R131	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R132	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R133	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R134	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R135	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R136	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R137	1-215-863-11	METAL OXIDE	100	5%	1W	F
R138	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	
R139	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R140	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R141	1-216-687-11	METAL CHIP	33K	0.5%	1/10W	
R142	1-216-603-11	METAL CHIP	10	0.5%	1/10W	
R144	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R145	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R146	1-216-295-91	CONDUCTOR, CHIP (2012)				
R147	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R148	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R149	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R150	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R152	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	
R154	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R155	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R156	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R157	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R158	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R159	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R160	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R161	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R162	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R163	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R164	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R165	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R166	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R167	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R168	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R169	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R170	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R171	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R172	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R173	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R174	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R175	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R176	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R177	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R178	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R179	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R180	1-216-295-91	CONDUCTOR, CHIP (2012)				
R181	1-247-855-31	CARBON	10K	5%	1/4W	
R182	1-249-432-11	CARBON	18K	5%	1/4W	
R183	1-249-441-11	CARBON	100K	5%	1/4W	
R184	1-249-441-11	CARBON	100K	5%	1/4W	
R191	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R192	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R193	1-216-295-91	CONDUCTOR, CHIP (2012)				
R194	1-216-295-91	CONDUCTOR, CHIP (2012)				
R195	1-216-025-91	METAL GLAZE	100	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R196	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R197	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R198	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R199	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R201	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R202	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R203	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R204	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R205	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R206	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R207	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R208	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R209	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R210	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R211	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R212	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R213	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R214	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R215	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R216	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R217	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R218	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R219	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R220	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R221	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R222	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R223	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R224	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R225	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R226	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R227	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R228	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R229	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R230	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R231	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R232	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R233	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R234	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R235	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R236	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R237	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R239	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R240	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R241	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R242	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R243	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R244	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R245	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R246	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R247	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R248	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R250	1-216-295-91	CONDUCTOR, CHIP (2012)				
R251	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R252	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R253	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R254	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R255	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R256	1-216-049-91	METAL GLAZE	1K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R257	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R258	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R259	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R301	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R302	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R303	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R304	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R305	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R306	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R307	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R308	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R309	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R310	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R311	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R313	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R314	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R316	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R318	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R319	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R320	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R321	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R322	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R323	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R324	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R325	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R326	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R327	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R328	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R329	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R330	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R331	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R332	1-216-675-11	METAL CHIP	10K	0.5%	1/10W	
R333	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R334	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R335	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R336	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R337	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R338	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R339	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R340	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R341	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R342	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R343	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R344	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R345	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R346	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R348	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R349	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R350	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R351	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R352	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R353	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R354	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R355	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R356	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R357	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R358	1-216-025-91	METAL GLAZE	100	5%	1/10W	

YB

REF NO.	PART NO.	DESCRIPTION				REMARK
R359	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R360	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R361	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R362	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R363	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R364	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R365	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R366	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R367	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R370	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R373	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R374	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R375	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R376	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R377	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R378	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R379	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R380	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R381	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R382	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R383	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R384	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R385	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R386	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R387	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R388	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R389	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R390	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R391	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R392	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R393	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R394	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R395	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R398	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R399	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R400	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R401	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R402	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R403	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R404	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R405	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R406	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R407	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R408	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R409	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R410	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R411	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R412	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R413	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R414	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R415	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R416	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R417	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R418	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R419	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R420	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R421	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R422	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R423	1-216-017-91	METAL GLAZE	47	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R424	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R425	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R426	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R428	1-216-295-91	CONDUCTOR, CHIP (2012)				
R429	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R432	1-216-295-91	CONDUCTOR, CHIP (2012)				
R434	1-216-025-91	METAL GLAZE	100	5%	1/10W	
		< SWITCH >				
S100	1-570-598-11	SWITCH, DIP				
S101	1-571-674-11	SWITCH, SLIDE				
S102	1-570-204-21	SWITCH, KEY BOARD				
S400	1-571-674-11	SWITCH, SLIDE				
		< TERMINAL BOARD >				
TB101	* 1-694-209-11	TERMINAL BOARD ASSY, I/O				
		< TEST PIN >				
TP100	* 1-535-877-22	CHIP, CHECKER				
TP101	* 1-535-877-22	CHIP, CHECKER				
TP102	* 1-535-877-22	CHIP, CHECKER				
TP103	* 1-535-877-22	CHIP, CHECKER				
TP104	* 1-535-877-22	CHIP, CHECKER				
TP105	* 1-535-877-22	CHIP, CHECKER				
TP106	* 1-535-877-22	CHIP, CHECKER				
TP107	* 1-535-877-22	CHIP, CHECKER				
TP108	* 1-535-877-22	CHIP, CHECKER				
TP109	* 1-535-877-22	CHIP, CHECKER				
TP110	* 1-535-877-22	CHIP, CHECKER				
TP111	* 1-535-877-22	CHIP, CHECKER				
TP112	* 1-535-877-22	CHIP, CHECKER				
TP113	* 1-535-877-22	CHIP, CHECKER				
TP114	* 1-535-877-22	CHIP, CHECKER				
TP115	* 1-535-877-22	CHIP, CHECKER				
TP116	* 1-535-877-22	CHIP, CHECKER				
TP117	1-537-864-11	PIN, POST				
TP118	* 1-535-877-22	CHIP, CHECKER				
TP119	* 1-535-877-22	CHIP, CHECKER				
TP120	* 1-535-877-22	CHIP, CHECKER				
TP121	* 1-535-877-22	CHIP, CHECKER				
TP122	* 1-535-877-22	CHIP, CHECKER				
TP123	* 1-535-877-22	CHIP, CHECKER				
TP124	* 1-535-877-22	CHIP, CHECKER				
TP125	* 1-535-877-22	CHIP, CHECKER				
TP126	* 1-535-877-22	CHIP, CHECKER				
TP127	* 1-535-877-22	CHIP, CHECKER				
TP128	* 1-535-877-22	CHIP, CHECKER				
TP129	* 1-535-877-22	CHIP, CHECKER				
TP130	* 1-535-877-22	CHIP, CHECKER				
TP300	* 1-535-877-22	CHIP, CHECKER				
TP301	* 1-535-877-22	CHIP, CHECKER				
TP302	* 1-535-877-22	CHIP, CHECKER				
TP303	* 1-535-877-22	CHIP, CHECKER				
TP304	* 1-535-877-22	CHIP, CHECKER				
TP305	* 1-535-877-22	CHIP, CHECKER				
TP306	* 1-535-877-22	CHIP, CHECKER				
TP307	* 1-535-877-22	CHIP, CHECKER				
TP308	* 1-535-877-22	CHIP, CHECKER				

REF NO.	PART NO.	DESCRIPTION			REMARK
TP309	* 1-535-877-22	CHIP, CHECKER			
TP310	* 1-535-877-22	CHIP, CHECKER			
TP311	* 1-535-877-22	CHIP, CHECKER			
TP312	* 1-535-877-22	CHIP, CHECKER			
TP313	* 1-535-877-22	CHIP, CHECKER			
TP314	* 1-535-877-22	CHIP, CHECKER			
TP315	* 1-535-877-22	CHIP, CHECKER			
TP316	* 1-535-877-22	CHIP, CHECKER			
TP317	* 1-535-877-22	CHIP, CHECKER			
TP318	* 1-535-877-22	CHIP, CHECKER			
TP319	* 1-535-877-22	CHIP, CHECKER			
TP320	* 1-535-877-22	CHIP, CHECKER			
TP321	* 1-535-877-22	CHIP, CHECKER			
TP322	* 1-535-877-22	CHIP, CHECKER			
TP323	* 1-535-877-22	CHIP, CHECKER			
TP325	* 1-535-877-22	CHIP, CHECKER			
TP326	* 1-535-877-22	CHIP, CHECKER			
		< CRYSTAL >			
X100	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)			
X101	1-567-781-41	VIBRATOR, CRYSTAL (4MHz)			
X300	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)			
X301	1-578-687-11	VIBRATOR, CRYSTAL (12.288MHz)			
X302	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)			

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1394-818-A	YC COMPLETE PC BOARD ******************			
	* 1-526-659-00	SOCKET, IC (DP) 28P			
		< CAPACITOR >			
C1000	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1001	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1003	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1004	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1012	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1013	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1014	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1017	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1018	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1019	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1020	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1021	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1022	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1023	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1024	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1025	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1026	1-124-584-00	ELECT	100MF	20%	10V
C1027	1-124-584-00	ELECT	100MF	20%	10V
C1028	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1029	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1030	1-126-157-11	ELECT	10MF	20%	16V
C1203	1-163-031-11	CERAMIC CHIP	0.01MF		50V
		< CONNECTOR >			
CN463	* 1-564-512-11	PLUG, CONNECTOR 9P			

REF NO.	PART NO.	DESCRIPTION			REMARK
		< DIODE >			
D1007	8-719-109-93	DIODE RD6.2ESB2			
D1008	8-719-109-93	DIODE RD6.2ESB2			
D1009	8-719-109-93	DIODE RD6.2ESB2			
D1010	8-719-109-93	DIODE RD6.2ESB2			
D1011	8-719-109-93	DIODE RD6.2ESB2			
D1012	8-719-109-93	DIODE RD6.2ESB2			
D1013	8-719-109-93	DIODE RD6.2ESB2			
D1014	8-719-109-93	DIODE RD6.2ESB2			
D1024	8-719-801-78	DIODE 1SS184			
		< IC >			
IC1000	8-759-360-79	IC TC7W14F			
IC1001	8-759-397-00	IC MAX489ECSD-TE2			
IC1002	8-759-162-80	IC MM1170BFB			
IC1008	8-759-421-41	IC HD6433337WA08F			
IC1009	8-759-445-10	IC CY7C136-55JC-TEL			
IC1010	8-759-925-90	IC SN74HC74ANS			
IC1011	8-759-430-28	IC HM6264BLFP-10LTZ			
IC1013	8-759-926-11	IC SN74HC138ANS			
IC1014	8-759-925-79	IC SN74HC11ANS			
IC1015	8-759-979-68	IC LM2931Z-5.0			
		< COIL >			
L1000	1-412-533-21	INDUCTOR	47µH		
		< TRANSISTOR >			
Q1003	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q1004	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
		< RESISTOR >			
R1001	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1002	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1003	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1004	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1005	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1006	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1007	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1008	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1009	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1011	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1012	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1013	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1014	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1015	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1016	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1017	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1018	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1019	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1020	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1021	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1022	1-216-295-91	CONDUCTOR, CHIP (2012)			
R1023	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1024	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1025	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1026	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1027	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R1028	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W

YC **YF** **YO**

REF NO.	PART NO.	DESCRIPTION				REMARK
R1029	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1030	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1037	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1038	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1040	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1041	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1049	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1050	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1053	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1054	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1057	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1058	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1060	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1061	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1063	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1064	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1065	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1066	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1067	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1068	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1069	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1070	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1071	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1072	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1073	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1074	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1075	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1076	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1077	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1078	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1079	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1080	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1081	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1082	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1083	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1084	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1085	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1086	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1087	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1088	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1089	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1090	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1100	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1101	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1103	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1104	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1105	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1106	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1107	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1108	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1109	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1110	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1111	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1112	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1113	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1201	1-216-295-91	CONDUCTOR, CHIP (2012)				

REF NO.	PART NO.	DESCRIPTION				REMARK
R1202	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1203	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1204	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1205	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1206	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1207	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1208	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1209	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1211	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1212	1-216-295-91	CONDUCTOR, CHIP (2012)				
		< SWITCH >				
S1000	1-571-674-11	SWITCH, SLIDE				
S1001	1-692-270-21	SWITCH, SLIDE				
		< TERMINAL BOARD >				
TB1001	* 1-694-208-11	TERMINAL BOARD ASSY, I/O				
		< TEST PIN >				
TP1000	* 1-535-877-22	CHIP, CHECKER				
TP1001	* 1-535-877-22	CHIP, CHECKER				
TP1002	* 1-535-877-22	CHIP, CHECKER				
TP1004	* 1-535-877-22	CHIP, CHECKER				
TP1005	* 1-535-877-22	CHIP, CHECKER				
TP1006	* 1-535-877-22	CHIP, CHECKER				
TP1007	* 1-535-877-22	CHIP, CHECKER				
TP1008	* 1-535-877-22	CHIP, CHECKER				
TP1009	* 1-535-877-22	CHIP, CHECKER				
TP1011	* 1-535-877-22	CHIP, CHECKER				
TP1012	* 1-535-877-22	CHIP, CHECKER				
TP1013	* 1-535-877-22	CHIP, CHECKER				
		< CRYSTAL >				
X1000	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)				

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	* A-1373-586-A	YF MOUNTED PC BOARD *******************				
	1-526-652-21	SOCKET, IC (DP) 8P				
		< CONNECTOR >				
CN465	* 1-564-524-11	PLUG, CONNECTOR 9P				
		< SWITCH >				
S1501	1-572-853-11	SWITCH, ROTARY				
S1502	1-572-853-11	SWITCH, ROTARY				

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	* A-1390-732-A	YO MOUNTED PC BOARD *******************				
	1-526-660-21	SOCKET, IC (DP) 32P				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C1	1-163-031-11	CDRAMIC CHIP	0.01uF	50V		
C2	1-163-031-11	CDRAMIC CHIP	0.01uF	50V		

< IC >

REF NO.	PART NO.	DESCRIPTION	REMARK
IC2	8-759-925-76	IC SN74HC08ANS	

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* 9-939-547-01 IFB-40 MOUNTED PC BOARD
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< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION			REMARK
C1	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C2	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C4	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C5	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C6	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C7	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C8	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C9	1-164-232-11	CERAMIC	1000PF		50V
C10	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C11	1-164-232-11	CERAMIC	1000PF		50V
C12	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C13	1-164-232-11	CERAMIC	1000PF		
C14	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C15	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C16	1-135-159-00	TANTAL CHIP	10MF		16V
C17	1-135-159-00	TANTAL CHIP	10MF		16V
C18	1-135-159-00	TANTAL CHIP	10MF		16V
C19	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C20	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C21	1-135-159-00	TANTAL CHIP	10MF		16V
C22	1-135-159-00	TANTAL CHIP	10MF		16V
C23	1-135-159-00	TANTAL CHIP	10MF		16V
C24	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C25	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C26	1-135-159-00	TANTAL CHIP	10MF		16V
C27	1-126-933-91	ELECT	100MF		16V
C29	1-135-159-00	TANTAL CHIP	10MF		16V
C30	1-135-159-00	TANTAL CHIP	10MF		16V
C31	1-135-159-00	TANTAL CHIP	10MF		16V
C32	1-135-159-00	TANTAL CHIP	10MF		16V
C33	1-163-082-00	CERAMIC CHIP	0.5PF		50V
C34	1-124-779-00	ELECT	10MF		16V
C35	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C36	1-126-923-11	ELECT	2200MF		10V
C37	1-135-159-00	TANTAL CHIP	10MF		16V
C38	1-163-082-00	CERAMIC CHIP	0.5PF		50V
C39	1-124-779-00	ELECT	10MF		16V
C40	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C41	1-126-923-91	ELECT	2200MF		10V
C42	1-135-159-00	TANTAL CHIP	10MF		16V
C43	1-163-082-00	CERAMIC CHIP	0.5PF		50V
C44	1-124-779-00	ELECT	10MF		16V
C45	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C46	1-126-923-91	ELECT	2200MF		10V
C47	1-135-159-00	TANTAL CHIP	10MF		16V
C48	1-135-159-00	TANTAL CHIP	10MF		16V
C51	1-124-779-00	ELECT	10MF		16V
C52	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

REF NO.	PART NO.	DESCRIPTION			REMARK
C53	1-163-104-00	CERAMIC CHIP	30PF		50V
C54	1-163-104-00	CERAMIC CHIP	30PF		50V
C55	1-163-104-00	CERAMIC CHIP	30PF		50V
C56	1-163-104-00	CERAMIC CHIP	30PF		50V
C57	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C58	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C59	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C60	1-126-967-11	ELECT	47MF		16V
C61	1-124-779-00	ELECT	10MF		16V
C62	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C63	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C64	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C65	1-135-159-00	TANTAL CHIP	10MF		16V
C66	1-163-231-91	CERAMIC CHIP	15PF		50V
C67	1-126-923-91	ELECT	2200MF		10V
C68	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C69	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C71	1-124-779-00	ELECT	10MF		16V
C72	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C73	1-163-104-00	CERAMIC CHIP	30PF		50V
C74	1-163-104-00	CERAMIC CHIP	30PF		50V
C75	1-163-104-00	CERAMIC CHIP	30PF		50V
C76	1-163-104-00	CERAMIC CHIP	30PF		50V
C77	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C78	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C79	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C80	1-126-967-11	ELECT	47MF		16V
C81	1-124-779-00	ELECT	10MF		16V
C82	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C83	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C84	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C85	1-135-159-00	TANTAL CHIP	10MF		16V
C86	1-163-231-11	CERAMIC CHIP	15PF		50V
C87	1-126-923-91	ELECT 2200MF			10V
C91	1-124-779-00	ELECT	10MF		16V
C92	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C93	1-163-104-00	CERAMIC CHIP	30PF		50V
C94	1-163-104-00	CERAMIC CHIP	30PF		50V
C95	1-163-104-00	CERAMIC CHIP	30PF		50V
C96	1-163-104-00	CERAMIC CHIP	30PF		50V
C97	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C98	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C99	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C100	1-126-967-11	ELECT	47MF		16V
C101	1-124-779-00	ELECT	10MF		16V
C102	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C104	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C105	1-135-159-00	TANTAL CHIP	10MF		16V
C106	1-163-231-91	CERAMIC CHIP	15PF		50V
C107	1-126-923-91	ELECT	2200MF		10V
C110	1-126-933-91	ELECT	100MF		16V
C111	1-126-967-11	ELECT	47MF		16V
C112	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C113	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C114	1-126-925-91	ELECT	470MF		10V
C115	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C116	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C117	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

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REF NO.	PART NO.	DESCRIPTION			REMARK
C118	1-124-779-00	ELECT	10MF		16V
C119	1-124-779-00	ELECT	10MF		16V
C120	1-124-779-00	ELECT	10MF		16V
C121	1-124-779-00	ELECT	10MF		16V
C122	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C123	1-135-159-00	TANTAL CHIP	10MF		16V
C124	1-135-159-00	TANTAL CHIP	10MF		16V
		< CONNECTOR >			
CN1	9-939-543-01	CONNECTOR (MALE)(14P)			
CN2	9-939-544-01	CONNECTOR (FEMALE)(14P)			
CN3	9-939-546-01	MINI JACK			
		< VIBRATOR >			
CR1	9-939-555-01	CR MODULE			
CR2	9-939-555-01	CR MODULE			
CR3	9-939-555-01	CR MODULE			
		< DIODE >			
D1	8-719-800-76	DIODE 1SS226			
D2	8-719-800-76	DIODE 1SS226			
D3	8-719-157-88	DIODE RD2.7SB			
D5	8-719-800-76	DIODE 1SS226			
D6	8-719-800-76	DIODE 1SS226			
D7	8-719-800-76	DIODE 1SS226			
D8	8-719-800-76	DIODE 1SS226			
D9	8-719-800-76	DIODE 1SS226			
D10	8-719-800-76	DIODE 1SS226			
D11	8-719-800-76	DIODE 1SS226			
D12	8-719-800-76	DIODE 1SS226			
D13	8-719-800-76	DIODE 1SS226			
D14	8-719-159-06	DIODE RD4.7SB			
D15	8-719-157-88	DIODE RD2.7SB			
		< IC >			
IC1	8-759-981-61	IC LM2901M			
IC2	8-759-925-80	IC SN74HC14ANS			
IC3	8-759-925-72	IC SN74HC02ANS			
IC4	8-759-925-85	IC SN74HC32ANS			
IC5	8-759-710-78	IC NJM082BM			
IC6	8-759-092-80	IC SN75157PS			
IC7	8-759-239-25	IC TC74HC4066AF			
IC8	9-939-532-01	IC OPA658U			
IC9	9-939-532-01	IC OPA658U			
IC10	9-939-532-01	IC OPA658U			
IC11	9-939-532-01	IC OPA658U			
IC12	9-939-532-01	IC OPA658U			
IC13	9-939-532-01	IC OPA658U			
IC14	9-939-534-01	IC MPC100AU			
IC15	9-939-534-01	IC MPC100AU			
IC16	9-939-534-01	IC MPC100AU			
IC17	9-939-532-01	IC OPA658U			
IC18	9-939-532-01	IC OPA658U			
IC19	9-939-532-01	IC OPA658U			
IC20	8-759-710-78	IC NJM082BM			
IC21	8-759-011-65	IC MC74HC4053F			
IC22	8-759-011-65	IC MC74HC4053F			
IC23	9-939-533-01	IC SN75453BPS			
IC24	8-759-708-05	IC NJM78L05A			
IC25	8-759-231-57	IC TA7810S			
IC26	8-759-708-05	IC NJM78L05A			
IC27	8-759-710-78	IC NJM082BM			
IC27	8-759-338-94	IC NJM2903M			
		< JACK >			
J1	9-939-564-01	CONNECTOR (MALE)(DIN)(96P)			
J2	1-564-512-11	CONNECTOR (9P)			
J3	1-564-505-11	CONNECTOR (2P)			
J4	1-564-505-11	CONNECTOR (2P)			
J5	1-564-505-11	CONNECTOR (2P)			
J6	1-564-512-11	CONNECTOR (9P)			
J7	1-564-509-11	CONNECTOR (6P)			
		< LED >			
LD1	9-939-552-01	LED VR3668S			
		< TRANSISTOR >			
Q1	8-729-421-26	TRANSISTOR RN1310			
Q2	9-939-536-01	TRANSISTOR RN1423			
Q3	9-939-536-01	TRANSISTOR RN1423			
Q4	9-939-536-01	TRANSISTOR RN1423			
Q5	9-939-536-01	TRANSISTOR RN1423			
Q6	9-939-536-01	TRANSISTOR RN1423			
Q7	8-729-421-26	TRANSISTOR RN1310			
Q8	9-939-537-01	TRANSISTOR HN1B01F			
Q9	9-939-537-01	TRANSISTOR HN1B01F			
Q10	8-729-421-26	TRANSISTOR RN1310			
Q11	8-729-421-26	TRANSISTOR RN1310			
Q12	9-939-537-01	TRANSISTOR HN1B01F			
Q13	9-939-537-01	TRANSISTOR HN1B01F			
Q14	8-729-421-26	TRANSISTOR RN1310			
Q15	9-939-539-01	TRANSISTOR HN1A01F			
Q16	9-939-539-01	TRANSISTOR HN1A01F			
Q17	9-939-539-01	TRANSISTOR HN1A01F			
Q18	9-939-537-01	TRANSISTOR HN1B01F			
Q19	8-729-421-26	TRANSISTOR RN1310			
Q20	9-939-536-01	TRANSISTOR RN1423			
Q21	8-729-216-22	TRANSISTOR 2SA1162-G			
Q22	9-939-551-01	TRANSISTOR 2SA1388			
Q23	8-729-421-26	TRANSISTOR RN1310			
Q24	8-729-421-26	TRANSISTOR RN1310			
Q25	9-939-538-01	TRANSISTOR HN1C01F			
Q26	8-729-421-26	TRANSISTOR RN1310			
Q27	8-729-421-26	TRANSISTOR RN1310			
Q28	8-729-421-26	TRANSISTOR RN1310			
Q29	8-729-421-26	TRANSISTOR RN1310			
Q30	8-729-421-26	TRANSISTOR RN1310			
Q32	9-939-536-01	TRANSISTOR RN1423			
		< RESISTOR >			
R1	1-216-025-91	METAL. CHIP	100	5%	1/10W
R2	1-216-057-00	METAL. CHIP	2.2K	5%	1/10W
R3	1-216-081-00	METAL. CHIP	22K	5%	1/10W
R4	1-216-049-91	METAL. CHIP	1K	5%	1/10W
R5	1-216-081-00	METAL. CHIP	22K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
R6	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R7	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R8	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R9	1-216-009-91	METAL, CHIP	22	5%	1/10W
R10	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R11	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R12	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R13	1-216-009-91	METAL, CHIP	22	5%	1/10W
R14	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R15	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R16	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R17	1-216-009-91	METAL, CHIP	22	5%	1/10W
R18	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R19	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R20	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R21	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R22	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W
R23	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W
R24	1-216-041-00	METAL, CHIP	470	5%	1/10W
R25	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R26	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R27	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W
R28	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R29	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R30	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R31	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R32	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R33	1-216-053-91	METAL, CHIP	1.5K	5%	1/10W
R34	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R35	1-216-624-11	METAL, CHIP	75	1%	1/10W
R36	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R37	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R38	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R39	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R40	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R41	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R42	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R43	1-216-624-11	METAL, CHIP	75	1%	1/10W
R44	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R45	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R46	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W
R47	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R48	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R49	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R50	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R51	1-216-121-91	METAL, CHIP	1M	5%	1/10W
R52	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R53	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R54	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W
R55	1-216-121-91	METAL, CHIP	1M	5%	1/10W
R56	1-216-121-91	METAL, CHIP	1M	5%	1/10W
R57	1-216-121-91	METAL, CHIP	1M	5%	1/10W
R58	1-216-121-91	METAL, CHIP	1M	5%	1/10W
R60	1-216-624-11	METAL, CHIP	75	1%	1/10W
R61	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R62	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R63	1-216-649-91	METAL, CHIP	820	1%	1/10W
R64	1-216-649-91	METAL, CHIP	820	1%	1/10W
R65	1-216-009-91	METAL, CHIP	22	5%	1/10W
R66	1-216-642-11	METAL, CHIP	430	1%	1/10W
R67	1-216-624-11	METAL, CHIP	75	1%	1/10W
R68	1-216-624-11	METAL, CHIP	75	5%	1/10W
R69	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R70	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R71	1-216-624-11	METAL, CHIP	75	1%	1/10W
R72	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R73	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R74	1-216-649-91	METAL, CHIP	820	1%	1/10W
R75	1-216-649-91	METAL, CHIP	820	1%	1/10W
R76	1-216-009-91	METAL, CHIP	22	5%	1/10W
R77	1-216-642-11	METAL, CHIP	430	1%	1/10W
R78	1-216-624-11	METAL, CHIP	75	1%	1/10W
R79	1-216-624-11	METAL, CHIP	75	1%	1/10W
R80	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R81	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R82	1-216-624-11	METAL, CHIP	75	1%	1/10W
R83	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R84	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R85	1-216-649-91	METAL, CHIP	820	1%	1/10W
R86	1-216-649-91	METAL, CHIP	820	1%	1/10W
R87	1-216-009-91	METAL, CHIP	22	5%	1/10W
R88	1-216-642-11	METAL, CHIP	430	1%	1/10W
R89	1-216-624-11	METAL, CHIP	75	1%	1/10W
R90	1-216-624-11	METAL, CHIP	75	1%	1/10W
R91	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R92	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R110	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R111	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R112	1-216-009-91	METAL, CHIP	22	5%	1/10W
R113	1-216-642-11	METAL, CHIP	430	1%	1/10W
R114	1-216-633-11	METAL, CHIP	180	1%	1/10W
R115	1-216-628-91	METAL, CHIP	110	1%	1/10W
R116	1-216-624-11	METAL, CHIP	75	1%	1/10W
R117	1-216-308-00	METAL, CHIP	4.7	5%	1/10W
R118	1-216-625-11	METAL, CHIP	82	1%	1/10W
R119	1-216-631-91	METAL, CHIP	150	1%	1/10W
R120	1-216-633-11	METAL, CHIP	180	1%	1/10W
R121	1-208-767-11	METAL, CHIP	240	1%	1/10W
R122	1-216-624-11	METAL, CHIP	75	1%	1/10W
R123	1-216-624-11	METAL, CHIP	75	1%	1/10W
R124	1-216-624-11	METAL, CHIP	75	1%	1/10W
R125	1-216-624-11	METAL, CHIP	75	1%	1/10W
R126	1-216-009-91	METAL, CHIP	22	5%	1/10W
R127	1-216-009-91	METAL, CHIP	22	5%	1/10W
R128	1-216-009-91	METAL, CHIP	22	5%	1/10W
R129	1-216-009-91	METAL, CHIP	22	5%	1/10W
R130	1-216-009-91	METAL, CHIP	22	5%	1/10W
R131	1-216-621-91	METAL, CHIP	56	1%	1/10W
R132	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R133	1-216-641-11	METAL, CHIP	390	1%	1/10W
R134	1-216-121-91	METAL, CHIP	1M	5%	1/10W
R135	1-216-121-91	METAL, CHIP	1M	5%	1/10W
R136	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R137	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R138	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R139	1-216-624-11	METAL, CHIP	75	1%	1/10W
R140	1-216-081-00	METAL, CHIP	22K	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION				REMARK
R141	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R142	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R143	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R144	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R145	1-216-628-91	METAL, CHIP	110	1%	1/10W	
R146	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R147	1-216-308-00	METAL, CHIP	4.7	5%	1/10W	
R148	1-216-625-11	METAL, CHIP	82	1%	1/10W	
R149	1-216-631-91	METAL, CHIP	150	1%	1/10W	
R150	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R151	1-208-767-11	METAL, CHIP	240	1%	1/10W	
R152	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R153	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R154	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R155	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R156	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R157	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R158	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R159	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R160	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R161	1-216-621-91	METAL, CHIP	56	1%	1/10W	
R162	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R163	1-216-641-11	METAL, CHIP	390	1%	1/10W	
R164	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R165	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R166	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R167	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R168	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R169	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R170	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R171	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R172	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R173	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R174	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R175	1-216-628-91	METAL, CHIP	110	1%	1/10W	
R176	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R177	1-216-308-00	METAL, CHIP	4.7	5%	1/10W	
R178	1-216-625-11	METAL, CHIP	82	1%	1/10W	
R179	1-216-631-91	METAL, CHIP	150	1%	1/10W	
R180	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R181	1-208-767-11	METAL, CHIP	240	1%	1/10W	
R182	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R183	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R184	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R185	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R186	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R187	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R188	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R189	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R190	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R191	1-216-621-91	METAL, CHIP	56	1%	1/10W	
R192	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R193	1-216-641-11	METAL, CHIP	390	1%	1/10W	
R194	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R195	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R196	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R197	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R198	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R199	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R200	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R201	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R202	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R203	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R204	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R205	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R206	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R207	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R208	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R209	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R210	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R211	9-939-554-01	CARBON	33		1W	F
R212	9-939-553-01	METAL, CHIP	150	5%	1/4W	
R213	9-939-553-01	METAL, CHIP	150	5%	1/4W	
R214	1-216-017-91	METAL, CHIP	47	5%	1/10W	
R215	1-216-017-91	METAL, CHIP	47	5%	1/10W	
R216	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R217	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R218	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R219	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R220	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R221	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R222	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R223	1-249-470-11	CARBON	0.47		1/2W	F
R224	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R225	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R226	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W	
R227	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R228	1-216-071-91	METAL, CHIP	8.2K	5%	1/10W	
R229	1-216-066-91	METAL, CHIP	5.1K	5%	1/10W	
R230	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W	
R231	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R232	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R233	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W	
R234	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R235	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R236	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R237	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R238	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R239	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R240	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R241	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R242	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R243	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
		< RELAY >				
RY1	9-901-739-01	RELAY				
RY2	9-901-739-01	RELAY				
RY3	9-901-739-01	RELAY				
		< SWITCH >				
SW1	9-939-540-01	SWITCH, ROTARY				
SW2	9-939-541-01	SWITCH, SLIDE				

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The components identified by shading and marked ⚠ are critical for safety. Replace only with the part number specified.	Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

MISCELLANEOUS

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REF NO.		PART NO.	DESCRIPTION	REMARK
	⚠	1-251-263-11	INLET, AC	
	⚠	1-451-449-11	DEFLECTION YOKE	
	⚠	1-452-880-11	NECK ASSEMBLY (NA-2911)	
	⚠	1-452-881-11	NECK ASSEMBLY (NA-2912)	
	⚠	1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
	⚠	1-453-108-31	DC BLOCK, HIGH-VOLTAGE	
		1-473-900-11	REMOTE COMMANDER (RM-PJ1000)	
		1-533-702-11	HOLDER, FUSE	
		1-900-228-18	CONNECTOR (C-G) ASSY, RELAY	
		1-900-228-19	CONNECTOR (C-B) ASSY, RELAY	
		1-900-229-29	CONNECTOR ASSY, MICRO 3P	
		1-900-229-30	TERMINAL ASSY, FASTON	
		1-900-229-32	CONNECTOR ASSY, H-V (S)	
		1-900-229-35	CONNECTOR ASSY, RELAY	
		1-900-229-36	CONNECTOR ASSY, MICRO 9P	
		1-900-229-37	CONNECTOR ASSY, MICRO 13P	
		1-900-229-40	CONNECTOR (L) ASSY, VH 3P	
		1-900-229-44	TERMINAL (L) ASSY, FASTON	
		1-900-229-53	CONNECTOR (DY-R) ASSY, RELA	
		1-900-229-54	CONNECTOR (DY-G) ASSY, RELAY	
		1-900-229-55	CONNECTOR (DY-B) ASSY, RELAY	
		1-900-229-60	CONNECTOR ASSY (S), VH 3P	
		1-900-229-85	TERMINAL (L) ASSY, FASTON	
		1-900-229-86	TERMINAL (N) ASSY, FASTON	
		A-1501-056-A	FAN ASSY	
		* X-4034-374-2	CASE ASSY, REAR	
F1	⚠	1-533-576-11	FUSE, TIME-LAG ((UL)ET) (G70QM/G70QMG)	
F1	⚠	1-533-694-11	FUSE GLASS ((UL)ET)(10A 250V)(G70Q)	
S901	⚠	1-762-870-11	SWITCH, AC POWER SEESAW	
V901	⚠	A-1501-115-A	COUPLING (R) ASSY, CRT	
V902	⚠	A-1501-116-A	COUPLING (G) ASSY, CRT	
V903	⚠	A-1501-117-A	COUPLING (B) ASSY, CRT	

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ACCESSORIES AND PACKING MATERIAL

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REF NO.		PART NO.	DESCRIPTION	REMARK
		1-473-899-11	REMOTE COMMANDER (RM-PJ1000)	
	⚠	1-500-037-11	CORE, FERRITE (WITH CASE) (AC CORD) (G70Q)	
	⚠	1-575-175-11	CORD SET, POWER (G70QM/G70QMG)	
		1-696-607-11	CORD, CONNECTION (WITH PLUG)	
		1-782-021-11	CORD, CONNECTION	
		1-900-229-31	CONNECTOR ASSY, H-V (M)	
		3-701-616-01	BAG, POLYETHYLENE	
		* 3-704-356-01	SHEET (STANDARD), PROTECTION	
		3-858-606-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH) (G70QMG)	
		3-858-606-21	MANUAL, INSTRUCTION (GERMAN/ITALIAN) (G70QMG)	
		3-858-607-11	MANUAL, INSTALLATION (ENGLISH/FRENCH/SPANISH) (G70QMG)	
		3-858-607-21	MANUAL, INSTALLATION(GERMAN/ITALIAN) (G70QMG)	
		3-858-608-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH) (G70Q/70QMG)	
		3-858-608-21	MANUAL, INSTRUCTION (CHINESE) (G70QM)	
		3-858-609-11	MANUAL, INSTALLATION (ENGLISH/FRENCH/SPANISH) (G70Q/70QMG)	
		3-858-609-21	MANUAL, INSTALLATION (CHINESE) (G70QM)	
		* 4-055-850-01	CUSHION (UPPER) (ASSY)	
		* 4-055-860-01	INDIVIDUAL CARTON (G70QM)	
		* 4-057-520-01	INDIVIDUAL CARTON (G70Q)	
		* 4-057-521-01	INDIVIDUAL CARTON (G70QMG)	
		4-057-924-11	CAP (A), LENS	
		4-396-077-01	JOINT	
		A-1500-012-A	BATTERY ASSY	
		* X-4033-984-1	TRAY ASSY, BASE	